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Commonwealth of Pennsylvania

REPORT

OF THE

Department of Mines

OF PENNSYLVANIA

Part I---Anthracite

1913

HARRISBURG, PA.:
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1914

VIRTUE
LIBERTY AND
INDEPENDENCE

LETTER OF TRANSMITTAL

Department of Mines,
April 1, 1914.

To His Excellency, John K. Tener, Governor of Pennsylvania:

Sir: In compliance with the Act of Assembly of April 14, 1903, I beg to submit herewith, for transmission to the General Assembly, the report of the Department of Mines for the year ending December 31, 1913. Part I covers in detail the operations in the twenty-one Anthracite Districts, Part II the operations in the twenty-eight Bituminous Districts, as returned by the Inspectors. Observations and suggestions are also offered relative to mining subjects.

Respectfully submitted,

JAMES E. RODERICK,
Chief of Department of Mines.

REPORT

OF THE

DEPARTMENT OF MINES

INTRODUCTION

The production of coal in Pennsylvania for 1913 reached the vast proportions of 264,657,020 net tons, of which 91,626,956 tons were anthracite and 173,030,064 tons were bituminous. All previous records of production were beaten and the great coal producing territory of Pennsylvania has again the distinction of producing one-half the entire output of the United States and about one-fourth the output of the world.

In the Anthracite region the number of inside employes was 128, 667, outside 46, 641, total 175,308; in the bituminous region the number of inside employes was 156,289, outside 33,635, total 189,924.

The number of fatal accidents in the anthracite region was 624, non-fatal 1,238. The number of fatal accidents in the bituminous region was 611, non-fatal 1,164.

The production of coke by operators of coal mines under the supervision of the Mine Law was 24,718,238 net tons. In addition to this, about 2,000,000 tons were produced by iron and steel establishments that do not mine coal.

Two serious disasters occurred during the year that resulted in the loss of many lives. On August 2, an explosion occurred at the Brookside Colliery of the Philadelphia and Reading Coal and Iron Company in which 20 persons were killed. This explosion has never been satisfactorily explained. Various theories have been advanced as to its cause, but there has been no satisfactory solution of it. The tragic aspect of this disaster is accentuated by the fact that while only two men were killed by the original explosion, eighteen others, including the superintendent, the foreman, nine rescuers and 7 tunnel men were killed by a second explosion caused by the tunnel men igniting the gas released by the fall of a stump pillar following the first slight explosion.

In the bituminous region, a disaster of far greater magnitude occurred April 23 at the Cincinnati mine of the Monongahela River Consolidated Coal and Coke Company, in which 97 lives were lost. A detailed account of this accident is given elsewhere in this report.

The Department in furtherance of its desire and endeavor to reduce fatalities has in recent years increased the inspection force until there are now 28 inspectors in the bituminous region and 21 in the anthracite, an increase of nine in five years and additional inspectors will be added in 1915. Every possible means of safeguarding the lives of the workmen is being adopted and it is hoped that the efforts to this end will be productive of good results in the future.

In the anthracite region there were strikes of brief duration in thirteen of the districts. Many of these were what are known as button strikes. A strike of this kind has for its cause the objection raised by some of the employes to the employment of men who do not wear the button worn by the members of the U. M. W. of A. as a distinctive badge. In some cases, the failure of even one man to wear the button has precipitated a strike. In the bituminous region there were slight labor troubles and disputes in eleven of the districts.

WORK OF THE MINE INSPECTORS

During the year they spent 3,466½ days inspecting mines; 115½ days inspecting machinery and plants; 468½ days investigating accidents; 102½ days attending inquests; 1,220 days at office work; 39½ days inspecting maps and plans; 447½ days in consultation on mining matters; 5 days in consultation on legal matters; 111½ days traveling on duty; 82 days on sick list; 119 days legal holidays; 52 days attending court; 16 days at mine fires; 146 days on Mine Foremen's Examining Boards; 3 days attending Mine Inspectors' Examination; 14 days attending Mining Congress; 26½ days attending funerals; 12 days on account of deaths in families; 2 days sickness in families; 83 days on vacation; 49 days on private business; a total of 6,581 days, or about 313 days a year for each Inspector.

IMPROVED MINING CONDITIONS

One of the interesting features connected with the mining industry at the present time, a feature that indicates the entrance of the humanitarian spirit into the practical realm of business, is the attention given by many operators to the moral, mental and physical welfare of the employes and their families. Not only have the First Aid and Rescue service and the hospital facilities been extended to a marked degree as a means of alleviating suffering in times of disaster, but the spirit of beneficence has manifested itself in various other ways.

A sincere and intelligent effort is being made by many operators to brighten and improve the living conditions in the mining communities and to lessen the monotony of the social life by healthful and agreeable diversions. Homes are being provided that are at once commodious, convenient and to a degree artistic. In many instances the houses are built of brick with up-to-date lighting and heating facilities, bath rooms and other conveniences that seem almost like luxuries. Neat and tasteful yards are connected with some of the houses. The streets and sidewalks have been improved and trees planted throughout some of the towns.

Athletic fields and playgrounds have been provided where baseball, football, tennis, croquet and other sports may be indulged in. In some of the smaller communities moving-picture shows, hotels and dairies are maintained by the operators at considerable expense. Social clubs and reading rooms afford delightful and healthful recreation for the workers and their families.

The progress of educational work has also been very marked. Substantial, well equipped school houses have been erected, capable teachers are employed and in addition to the usual curriculum, domestic science, kindergarten and sociological courses have been introduced. The departments for these new adjuncts are thoroughly equipped and in charge of expert instructors.

Mining classes for men who desire to take the examination for positions as mine foremen and fire bosses, classes in English for foreign speaking employes and classes in elementary branches for boys and men, are held two or three evenings a week. These institutions are very helpful to those who must work during the day.

Hospitals equipped with every modern device and necessity for quick, effective service have been built and are beautifully clean and sanitary, heated and ventilated perfectly and presided over by selected corps of physicians and nurses.

In short, the time is coming when the occupation of the coal miner will be relieved not only of many of the dangers that beset it, but also of many of the disagreeable and repellant features, and his home and social surroundings will be characterized by a sense of comfort, cheerfulness and attractiveness that have been unknown to him in the past.

FIRST AID CORPS AND RESCUE CORPS

The practical beneficence of First Aid and Rescue work is being demonstrated daily in the mining communities of the State. Although of recent origin and purely humanitarian in character, this work has nevertheless firmly established itself as a most useful adjunct to the well recognized and universally applied preventive and remedial measures in force in the mining industry.

The primary object of First Aid and Rescue work is to render quick service in times of emergency, and very nobly and effectively is it fulfilling its mission.

It is difficult to estimate the extent of the relief afforded by the First Aid Corps, or to tell how many lives have been saved by their quickly-responsive and intelligently directed efforts; but every day they relieve victims of disaster of pain and suffering, and sustain and protect them until the hospital is reached or the doctor arrives.

This work had its inception in England in 1880, and about the same time efforts were made to establish it in Germany, France, Belgium and Austria.

Its introduction into Pennsylvania was made in 1900 in the Anthracite region. Although at first regarded with indifference or disapprobation, it gradually demonstrated its utility and in a short time won universal favor in that region with the result that in recent years many hundreds of teams have been organized and thousands of men have been instructed in the work.

In the bituminous region the benefits to be derived from well trained First Aid Corps were not recognized until within the last three or four years, but the work once having been adopted has made tremendous progress. Some of the most expert and most thoroughly equipped corps in the world are now found at the bituminous mines.

This work is having another and a very important influence not expected when first instituted. The thorough and careful training in the methods of treating various injuries and conditions of helplessness and the fact that dangers are visualized and brought forcibly to the attention of the members of the teams are impressing upon them the necessity for more caution and more complete compliance with the rules of safety in the performance of their dangerous occupation.

This subject has been treated of in detail in the Department reports for 1906 and 1910; but on account of its importance and its tremendous growth in recent years the Department has collected statistics as to the number of First Aid teams in the State, and also the number of Rescue Corps.

In the anthracite region there are now approximately 454 First Aid teams, comprising 2,556 men, and the number instructed in the work up to the present time is 5,229. The number of Rescue Corps is 97, comprising 696 men; and in this work 2,521 men have received instruction. In the bituminous region there are 362 First Aid teams, comprising 1,779 men, and the number instructed in the work up to the present time is 2,156. The number of Rescue Corps is 52, comprising 282 men, and in this work 594 men have received instruction.

The reports received regarding this work, while incomplete, show that in the anthracite region during 1913, there were 20 lives saved by the prompt treatment of First Aid teams and 3 by the Rescue Corps, who used the pulmotor to resuscitate victims of fire-damp. In the bituminous region 27 lives were saved by the First Aid teams.

HOSPITAL AID TO MINERS

The great increase in the hospital facilities available for the miners and their families in times of sickness and injury calls for special mention.

It is true that for many years hospitals in the mining region have opened their doors freely and at little cost to the miners, but in recent years, owing to the increase in the number of mine employes and the general awakening of the helpful spirit. greater consideration has been given to their needs and many such institutions have been established largely for their benefit. These hospitals are maintained by State aid, contributions by the operators and in some cases by contributions from the miners as individuals or from their organizations.

The patients in many cases pay a small daily charge while inmates, if able to do so. If not, the operators frequently bear the expense. In fact, many operators make it a rule to pay for the care of their workmen, the amount being generally a per diem charge of $1.00 or $1.25.

Pennsylvania, being the greatest of mining states, has given more attention to this matter than any of the other states. In fact the efforts of the mine operator, the miner and the legislator have all been directed to the procuring of better, more extensive and freer hospital facilities. In every mining county of the State there are now institutions of this kind, equipped and managed in the most complete and scientific manner.

The Department has recently collected statistics on this subject which, while incomplete, demonstrate in a convincing way the extent to which this work is being carried on. In the anthracite region there are 16 hospitals at which about 7,000 miners and 5,000 members of their families were treated during 1913. In the bituminous region there are 48 hospitals at which about 5,000 miners and 1,000 members of their families were treated.

In addition to these patients there were many others designated as out-patients, who received medicine and treatment, but were not inmates of the hospitals.

EXAMINATION OF MINE INSPECTORS AND MINE FOREMEN

The charge has frequently been made of late that the Boards of Examiners who examine applicants for the office of Mine Inspector in the anthracite region maintain a standard so high that it is impossible for the ordinary miner to pass successfully. It is a fact that the standard is high for the ordinary miner, as the records show that only one miner working at the face ever passed the examination. He is a member of the inspection force today. This condition is due, however, to the fact that the miners have never made the proper effort to prepare themselves for the severe test. It is also a fact that but very few of them enter the examination.

The necessity for thoroughly equipped and properly qualified men for the important position of Inspector has long been recognized in Great Britain and continental Europe, where the examinations are much more rigid and the theoretical standards much higher than in this country. Undoubtedly the standard should be raised still higher in Pennsylvania until every Inspector, in addition to his practical knowledge of mining and of mine gases as found in coal mines, should also possess knowledge of mining engineering, electricity and chemistry. Many of the present Inspectors are familiar with these subjects and ultimately all of them will be.

The position of State Mine Inspector is a responsible and important one and the miners who aspire to it should prepare themselves properly for it. A miner of twenty years of age who can read and write the English language may, by proper application, fit himself for the position of Inspector by the time he is thirty years of age, the legal age for applicants for the position. He would have ample time in ten years to fit himself in all the necessary branches, including the additional ones suggested above and he could then enter the examination with a fair prospect of success.

To induce the foremen, superintendents and miners to enter upon the rigid course of study necessary to equip them for the examination, the salary of the Inspectors should be increased to at least $4,000 per year. The present remuneration is the same as it was in 1870 and is not adequate for the arduous and dangerous work demanded by the position.

An additional incentive to the young mine foremen and miners to persevere in their efforts to fit themselves for the honorable position is found in the fact that within the next few years there will probably be vacancies in the force due to the death or resignation of members of advanced age. It is probable, also, that the force will be increased.

It is recognized that the men who make the best Inspectors are the men who have had actual experience as miners, that is, men who have mined and blasted coal at the face and have performed all other kinds of work in the coal mines. The first requisite, therefore, should be experience as a practical miner with the added knowledge of mining engineering, chemistry and electricity, and it is the hope of the Department that legislation raising the standard to this extent will become effective before long.

It has frequently been asserted that the Mine Inspectors' Examining Boards allowed only a certain number of applicants to pass, but the fact is that no Board has ever yet held an examination in the anthracite region in which the required number of applicants to fill the positions made a general average of ninety per cent. Many of them, of course, do so, but others fall at times as low as 85 per cent. in their averages. This condition has made it necessary for the Boards to go over the examination papers two or three times in their efforts to bring the desired number of applicants up to the required legal average of 90 per cent.

A similar charge of too high a standard is also made against the Boards who examine applicants for mine foremen, assistant mine foremen and fire bosses. A charge is made that no one but an educated man can hope to pass the examination. This is true only in a degree regarding mine foremen, and not at all as to the assistant mine foremen. The fact is that many men are holding certificates of qualification as mine foremen who should have only assistant mine foremen's certificates, and a great many hold certificates of qualification for the latter position, who have very limited education. It is the opinion of the Department that the Boards are often too lenient in the passing of applicants. However, efforts are being made by many of the prominent companies and also by the Y. M. C. A. to educate the miners in a thorough and practical manner and there will soon be many competent applicants for examination for all the positions named. The Y. M. C. A. Night School at Wilkes-Barre has established the curriculum given below, and courses along similar practical lines are now accessible in other sections of the anthracite field.

"MINING CLASSES" SCHEDULE

Y. M. C. A. Night School Announces Dates for Examinations

The schedule of examinations for the classes in mining at the Y. M. C. A. has just been arranged by Charles Enzian and C. M. Devendorf. The schedule will be as follows:—

First Year. Arithmetic, Friday, April 10; ventilation, Tuesday, April 14; mining and mining laws, Friday, April 17.

Second Year. Arithmetic, Friday, April 10; surveying and mining law, Tuesday, April 14; ventilation, Friday, April 17.

Third Year. Ventilation, Friday, April 10; surveying and mining law, Tuesday, April 14; mechanics and electricity, Friday, April 17.

Graduating examinations will be held Tuesday, April 21, and Friday, April 24. The schools close Friday, April 17, and after that time there will be meetings each Friday night until the mine foremen's examinations are to be held, which is to be May 25 and 26.

In the mechanical drawing classes at the Y. M. C. A. the international examinations were given last night. Three of the students in the class took the final examinations and ten took the first year work. There were thirteen of the twenty-two in the class who took the examinations. In the complete Y. M. C. A. schools there have been 302 enrolled during the year. All branches are now closed excepting the mining classes."

EXPLOSIBILITY OF ANTHRACITE COAL DUST

It has been known for at least thirty years that bituminous coal dust might under certain circumstances be exploded without the aid of explosive gas, but anthracite dust has never been known to explode in that way under any conditions. The anthracite operators and coal men generally have always contended that anthracite dust would not explode even in the presence of the most explosive mixture. Practical experience during the past fifty years, in which hundreds of explosions have occurred, bear out this theory, for had it been explosive, hundreds of lives would have undoubtedly been lost in explosions every year.

When the United States Testing Station was first established at Pittsburgh, many of the mine managers thought it would be a good thing to test the explosibility of anthracite dust, and coal was sent from nearly all the anthracite counties for that purpose. The tests made, however, failed to explode the dust.

Recent reports from South Wales having disclosed the fact that anthracite dust in the mines of that country had been ignited in the presence of gas, and also at times when no gas was present, the question of the explosibility of Pennsylvania anthracite dust was again taken up by some persons in this State, and in order to settle the question definitely, tests were made by the engineer in charge of the United States Testing Station in the presence of several mine operators. Seventeen of the tests were made in the experimental mine steel gallery, six in the mine entries, and nine in the dust gallery at the Pittsburgh Testing Station.

It seemed like tempting fate to make a test in the experimental mine at Bruceton, as it is a bituminous mine, but, in spite of the objections raised by the anthracite operators, the tests were subsequently made, without the knowledge of the Department of Mines or the operators. The engineers who insisted upon making them, of course, did not appreciate what it would mean to the anthracite industry had they succeeded in igniting anthracite dust even though it were done in a bituminous mine. Fortunately no explosions resulted from the tests. In fact not only did the dust not prove explosive without firedamp being present, but even in an explosive mixture it did not prove inflammable. It tended rather to lessen the length of the flame of an explosive firedamp mixture.

The Chief of the Department of Mines, as well as many of the State inspectors and operators of the anthracite region, felt positive, from results of many years' experience, that the anthracite dust was not inflammable when firedamp was not present, but they could not assert positively that it would not extend the flame of a firedamp explosion. The experiments proved that it would not.

It will be readily understood, however, that the tests were of tremendous interest to all persons concerned in mining anthracite, as a most serious problem would have presented itself had the dust, which accumulates in large quantities, proved inflammable.

Those present at the culminating experiments were, Messrs. G. B. Hadesty, Division Superintendent, Joseph A. Garner and Mr. Price, representing the Philadelphia and Reading Coal and Iron Company; W. G. Whildin, General Superintendent of the Lehigh Coal and Navigation Company; W. S. Norton, Chief Engineer of the Alden Coal Company; H. R. Owens of the Lehigh and Wilkes-Barre Coal Company; W. Gordon Thomas of the Wilkes-Barre Colliery Company; Charles Enzian, the representative of the Bureau of Mines, Wilkes-Barre; George S. Rice, Chief Mining Engineer, and Spencer P. Howell, Explosives Engineer of the Bureau, both of Pittsburgh; James E. Roderick, Chief of the Pennsylvania Department of Mines, Harrisburg; Inspectors M. J. Brennan, Pottsville, A. B. Lamb, Shenandoah, S. J. Jennings, Pittston and D. T. Davis, Wilkes-Barre.

The following is a report of the tests as made by the National Bureau of Mines:

REPORT ON ANTHRACITE DUST INFLAMMABILITY TESTS

During March and April, 1914, inflammability tests on Wyoming region anthracite dust were made in the experimental mine steel gallery (g47-63), in the mine entries (EM 5& 96-100), and in the dust gallery at the Pittsburgh Station (g8415-8520 and 8500-8502).

In the first series black powder shots were fired into anthracite dust zones, in some tests in the presence of small percentages of gas, and also into dustless zones to obtain comparative results.

TABLE A—Ignition by Blownout Shots of Black Powder

(A-1) Blownout Shots—(Bruceton Gallery)

Test number	Ignition charge	Air current direction	Length of dust zone	Amount of dust	Distance through which flame was observed		Remarks
					Windows	Doors	
			Ft.		Ft.	Ft.	
47	4 lbs. FFF—3 lbs. clay,	With shot,	93	None	30	37	
48	4 lbs. FFF—1 lb. clay,	With shot,	93	None	3	at 37	
56	4 lbs. FFF—1½ lbs. clay,	With shot,	93	None	30	None	
57	4 lbs. FFF—3 lbs. clay,	With shot,	93	93	10	None	
55	4 lbs. FFF—1½ lbs. clay,	With shot,	93	186	30 ft. then delayed to 63 ft.	None	Delayed flame from 30′ to 63′. This flame had quite a red appearance as of burning dust.
61	4 lbs. FFF—1 lb. clay,	With shot,	93	186	30 ft. then delayed to 63 feet.	70	Delayed flame was red. Looked as though dust was burning.
62	4 lbs. FFF—1 lb. clay,	With shot,	93	186	37 ft. then delayed 17′ to 63′.	Delayed 17′ to 70′	
63	2 lbs. FFF—1 lb. clay,	With shot,	93	186	3	None	
50	2¾ lbs. FFF—2½ lbs. clay,	Against shot,	119	244	None	None	East end closed by canvas.
54	4 lbs. FFF—1 lb. clay,	With shot,	93	186 .70% gas.	37′ flame observed twice at 20′ and 37′.	57′	A delayed flame was seen at 30′ and 37′ after the first flame from shot.
51	2¾ lbs. FFF—3 lbs. clay,	Against shot,	119	244 .34% gas.	None	None	
52	2¾ lbs. FFF—3 lbs. clay,	Against shot,	119	244 .46% gas.	None	33′ delayed flame	
53	4 lbs. FFF—1 lb. clay,	Against shot,	119	176 .60% gas.	None	None	

The average length of flame from a blownout shot of 4 lbs. FFF black powder ranged from 30-37 feet as seen either in doors or windows. In g57 with one pound of dust per foot, the flame was seen for only 10 feet. With 2 lbs. of dust per foot the length of the first flash of flame was about the same as that observed in the blank tests, but a slowly moving red flame was later seen to advance from point 37-63 feet. This extension of flame was probably due to burning anthracite dust but it is significant that in no case was the flame propagated to the end of the dust zone. The presence of small percentages of gas in tests having anthracite dust zones had no appreciable effect as regards lengthening of flame.

TABLE B—Ignition by Blownout Shots of Dynamite

(A-1) Blownout Shots—(Bruceton Gallery)

Test number	Ignition charge.	Air current direction	Length of dust zone	Amount of dust	Distance through which flame was observed		Remarks
					Windows	Doors	
			Ft.		Ft.	Ft.	
60	400 grams 40% dynamite, ...	With shot, ...	93	None	3	None	
58	400 grams 40% dynamite (no stemming)	With shot, ...	93	93	10	None	
59	400 grams 40% dynamite (no stemming)	With shot, ...	93	186	17	None	

The length of flame was slightly extended by dust, but propagation did not occur.

TABLE C—Ignition of Gaseous Mixtures by Electric Igniters

8415	8.25% gas.	....	None.	None.	63′	43′
8417	8.27% gas.	....	None.	None.	50′	30′
		Gas Charge Igtn.				
8416	7.63% gas.	Electric igniter, ...	80′	80 lbs.	43′	30′
8418	8.28% gas.	Electric igniter, ...	100′	100 lbs.	43′	30′
8500	8.00% gas.	Electric igniter, ...	80′	80 lbs.	50′	51′

The flame as observed at the side windows when dust was used, averaged about 8 feet shorter than in the blank tests, and as observed at top doors, was about the same in both tests. Under these conditions anthracite dust did not extend the length of flame.

TABLE D—Ignition of Gaseous Mixtures by Blownout Shots

Test number G	Date	Per cent. gas ignition zone (20 feet)	Gas charge ignition and stemming	Length of dust zone	Amount of dust pounds	Distance through which flame was observed	
						Windows	Doors
8502	....	8.22	1¾ lbs. B. P., ...	None	None	50′	50′
8419	3-24-14	8.02	1¾ lbs. FFF B. B. (Clay stemming)	100′	Same as G8418 20 lbs. added	63′	50′
8420	3-24-14	8.01	1¾ lbs. FFF B. P. (Anthracite dust stemming)	100′	Same as G8418 20 lbs. added	63′	50′
8501	4-21-14	8.37	1¾ lbs. FFF B. P. (Clay stemming)	80′	80 lbs., ...	50′	51′

In the tests with dust, the length of flame averaged about 9 feet longer, at side windows, and of about equal length at top doors, as the flame in the test with a dustless zone.

TABLE E—Ignition by Blownout Shots

Test number. E. M.	Charge and stemming.	Velocity of air current	Direction of shot	Per cent. of gas in air current	Length of dust zone	Amount of dust	Distance through which gun cotton burned	Remarks.
5 2-2-12	2 lbs. FFF, ... (5 in. shale dust)	75′	With air,	None	None	None	25 ft.	Blank test for comparison
99	4 lbs. FFF, ... (3 lbs. clay), ..	+ —50	With air,	0.8	None	None	25 ft.	
96	4 lbs. FFF, ... (3 lbs. clay)	172	With air,	None	150′	300 lbs.	50 ft.	Bituminous coal. Coke globules on platform at cannon
98	4 lbs. FFF, ... (3 lbs. clay)	164′	With air,	None	350′	700 lbs.	25 ft.	Some roof coal noted in dust after firing shot
97	4 lbs. FFF, ... (3 lbs. clay) ..	+ —50	With air,	1.04	350′	700 lbs.	25 ft.	
100	4 lbs. FFF, ... (3 lbs. clay) ..	+ —50	With air,	1.18	350′	700 lbs.	150 ft.	Tin foil consumed 150′ from cannon. Coke blisters on rib

In only one test was the length of flame materially extended over that obtained in the blank test and in this case propagation to the end of the dust zone was not obtained.

As propagation was not obtained in this test, although made in a bituminous mine in the presence of 1% gas, where the action might have been assisted by some bituminous dust from ribs, it seems very unlikely that propagation can be obtained in an anthracite mine.

CONCLUSIONS

The foregoing series of tests with certain Pennsylvania anthracite dust were so arranged as to subject the dust to the most severe conditions favorable to originating explosions, if the flame from blownout shots of black powder are propagated by the dusts. The results of the tests however, possibly justify the conclusions drawn from earlier preliminary tests made by the Bureau on anthracite dust of similar character, that it is impossible, at least under conditions like those created by the physical arrangements of the tests, to obtain propagation of flame of blownout black powder shots, or the flame of an explosion of firedamp initiated by the flame of a blownout shot. These tests also in a measure substantiate the security felt against explosions of dust by Anthracite mining men of wide experience who are familiar with the working conditions in the anthracite mines.

SAFETY OR FLAMELESS EXPLOSIVES, KNOWN AS PERMISSIBLE EXPLOSIVES

From the statements made from time to time in the newspapers, magazines and trade journals, it might be inferred that before the establishment of the National Bureau of Mines in Pittsburgh, in 1909, the important question of explosives for use in the mines had received no attention in Pennsylvania. This is far from being the case. For the last ten or twelve years a good deal of consideration has been given this question by the State Department of Mines and by the foremen, superintendents and managers.

Safety or flameless explosives, now known as permissible explosives, were introduced into the mines of Pennsylvania at Johnstown, in 1902, shortly after an explosion of gas had occurred in the Rolling Mill mine at that place. The first one tried was known as Masurite and the persons who introduced it were very enthusiastic over its virtues, claiming that blasting could be done safely with it in the presence of an explosive mixture. They experimented in an abandoned entry in one of the mines where explosive gas was allowed to accumulate in the entry in a dangerous quantity, and were enabled to charge the hole with the new explosive and fire it with electricity without igniting the gas. The experiment was duplicated many times and each time without exploding the gas. Locked safety lamps were used when the experiments were made.

From Johnstown the men went to the coking coal mines of Fayette county, where they experimented in isolated entries in several mines, and demonstrated the safety qualities of the explosive to the satisfaction of several of the superintendents, mine foremen and inspectors. By degrees the new explosive gained the confidence of the superintendents to such an extent that orders were given for a limited quantity of it. During 1903 several of the most intelligent superintendents had the explosive in use in several of their most gaseous mines. After the Harwick explosion in January, 1904, in which coal dust played so important a part, superintendents, mine foremen and inspectors became more alarmed than ever about the possibility of blown-out shots igniting the coal dust, and since that time have given more attention to safety explosives. No loss of life has occurred from an explosion of gas or dust due to a blown-out shot since 1908.

During the years 1904 to 1909 inclusive, the coking coal mines of Fayette county made small use of explosives, except the so-called safety or flameless explosives. In 1904 or 1905 another safety or flameless explosive called Nebilite was introduced and was fairly successful. Other explosives from time to time were introduced and by 1909 there were possibly a half dozen different kinds in use. None of them was absolutely safe, but they were much safer than black powder or dynamite.

After the establishment in 1909 of the Testing Station in Pittsburgh, a great many new explosives were sent there to be tested, and all that passed successfully were designated "permissible explosives" and accepted by the Department of Mines of Pennsylvania for use in gaseous mines where locked safety lamps are used. They are probably as safe as explosives can be made

The Act of June 9, 1911, prohibits the use, in bituminous mines where locked safety lamps are used, of any explosive that has not passed a successful test and been classified as permissible. The law, however, should go further and require permissible explosives to be used in all mines liberating gas in any quantity, whether safety lamps are used or not, and also in all other mines when the coal contains more than 10 per cent. of volatile matter. This would be a decided safety precaution. About thirty different kinds of explosives are on the market that can be safely used under the rules and regulations prescribed after passing the rigid test of the Bureau. It will be necessary, however, to keep a vigilant watch to see that no deterioration takes place in subsequent consignments of explosives, as it is possible that for the sake of greater profit, an inferior quality of explosive might be furnished, by which the safety of the employes would be menaced unknown to the superintendent, manager and inspector.

To provide against such a contingency, the Department will at intervals submit samples of explosives in use to the engineer in charge of the Testing Station, and if the report made by him shows that any material deterioration has occurred in the quality, the manufacturer will be notified that the explosive cannot be used in the mines of this State for at least three months from the date of the test. A second adverse report would bar the explosive permanently from the State. This seems like drastic action, but not too drastic when monetary gain is valued more highly than human life. The Act of June 9, 1911, gives the Chief of the Department power to prohibit the use of explosives when they show deterioration.

Possibly it might be well for the State of Pennsylvania to have its own testing expert, as the National Bureau of Mines may find it too great a task to do all the testing necessary for the various states.

Permissible explosives are now very extensively used in both the bituminous and anthracite regions, although in the latter the necessity for their use is not as great as in the former, owing to the non-explosible character of the anthracite dust.

BARRIER PILLARS FOR ANTHRACITE MINES

The first act to regulate the mining of coal in the Anthracite region was enacted March 3, 1870, as the immediate result of the burning of the breaker at the Avondale shaft by which 179 lives were lost. There was no second opening to the mine, and the victims being unable to escape by the shaft were suffocated by smoke from the burning wood. The shaft had been partitioned into an inlet and outlet for the air in addition to hoisting and pumping compartments.

The Act of 1870 was made as comprehensive as possible, containing provisions for guarding against all the dangers that were known to exist at that time. It created a revolution in the methods of mining coal and was far reaching in its effect. The larger companies acquiesced in most of the new conditions imposed upon them, but many individuals took exception to certain provisions as being entirely too drastic. In the enforcement of the Act, however, the Courts generally sustained the Inspectors. The Act, while effective in adding greatly to the safety and systematic methods of mining, naturally lacked many essential requirements that experience subsequently demonstrated as necessary for the protection of the workmen. Having had experience as a miner, mine foreman and superintendent of mines in the Wyoming Valley, I was familiar with the need that existed for barrier pillars to safeguard the mine workers of the future and knew the inadequate provisions for that purpose in the Act of 1870. I was commissioned as Inspector of Mines in June, 1881, and in my first report made the following remarks on the need of such pillars:

"This subject deserves the attention of all parties interested in coal mining, especially the operators and land owners. Each side of a boundary line should have at least fifty feet of coal left untouched, which would make a pillar of one hundred feet wide between the collieries. The size of these pillars should vary according to circumstances. In thick seams like the Mammoth, the pillars should be wider than in smaller seams like the Wharton. Their size should also be regulated by the character of the immediate overlying strata, the vertical height to next overlying seam, and it should be especially regulated by the vertical thickness or height of the different strata to the surface. For instance, a vertical height of one hundred and fifty feet does not need as strong a pillar as a vertical height of three hundred feet. The character of all overlying strata, the thickness and number of coal seams should also be considered. Enough boundary pillars should be left in to hold up the overlying strata of whatever character and thickness it may be, as they will eventually have to bear all the weight, for those left in today will prove worthless when the crumbling mass above begins to move. I know of several mines where one hundred feet of pillars were marked to be left in, but with a recklessness bordering on criminality they have been mined from both sides until there is left only a shell of a few feet. In other mines they never had a pillar, and there is nothing to show the boundary line inside. The advantages of having large boundary pillars are many and very important. Mine fires, sudden flooding and general caving in of mines are among the things of today, and will, in the future, work much more ruinous effects. Mine fires at times can only be extinguished effectually by water, yet no company has a right to flood its colliery or collieries, if in so doing it also floods adjoining collieries. In the case of a sudden flooding of a colliery or collieries, proper pillars would keep the water within bounds, and other collieries would not be affected, and costly litigations would be avoided. General caving in, such as the Harleigh disaster in 1877, is liable to occur at any time, and without this strong barrier other collieries are in danger of being ruined. Another and perhaps the most important reason is this: Different collieries in the same basin will not be exhausted at the same time, and probably not for an interval of years. The owners of those first exhausted will, of course, remove their pumping machinery, and leave the abandoned places to fill up with water, sufficiently perhaps to drown out all the other collieries in the same basin, unless new and powerful machinery is put in. Then the point to decide will be, whether it will pay the company or companies still mining to make such addition to expenses. If they can see a small margin of profit they will do it; otherwise they will have to abandon their mine or mines. I have no hesitation in saying that a large amount of anthracite coal, which could be mined with judicious forethought, will be lost in this way, unless this matter is attended to, and that very soon, by some party having authority to compel compliance with its order. I respectfully call the attention of Senators and Representatives from the Anthracite regions to these subjects, as they are of special importance to their constituents."

At that time, and for many years after, very little attention was given to my suggestions, as very few persons recognized the need for such precautionary measures.

At the session of 1883 an Act was passed authorizing the Governor to name a commission to revise the Anthracite Law. The Commission held numerous meetings and discussed all matters that in their opinion would give additional safety to the mining of coal, including boundary pillars. The bill as introduced in the Legislature, however, did not contain any provision regarding pillars, and consequently the Act as passed in June, 1885, does not cover the question.

Another Commission was subsequently appointed to amend the Act of 1885, and on the report made to the Legislature, the Act of 1891 was passed. This Act is in force at the present time, but is generally looked upon as antiquated. It contains, however, the following provision regarding barrier pillars:

Article III, Section 10. "It shall be obligatory on the owners of adjoining coal properties to leave, or cause to be left, a pillar of coal in each seam or vein of coal worked by them, along the line of adjoining property, of such width, that taken in connection with the pillar to be left by the adjoining property owner, will be a sufficient barrier for the safety of the employes of either mine in case the other should be abandoned and allowed to fill with water; such width of pillar to be determined by the engineers of the adjoining property owners, together with the inspector of the district in which the mine is situated, and the surveys of the face of the workings along such pillar shall be made in duplicate and must practically agree. A copy of such duplicate surveys, certified to, must be filed with the owners of the adjoining properties and with the inspector of the district in which the mine or property is situated."

Another Commission was appointed by authority of the Act of 1911 and made report to the Legislature of 1913. The Commission spent about sixty days in the preparation of a new Code that was presented to the Legislature, but it failed of passage.

The article on Barrier Pillars contained in the Proposed Code follows herewith.

If the Code had been enacted into a law with this article as prepared, the question of safe-guarding the mines in this respect would have been definitely and satisfactorily settled.

ARTICLE XX

Boundary Pillars

Section 1. It shall be obligatory on the land owners and operators to leave a pillar of coal in each seam worked along the lines of adjoining mines or properties of such width taken in connection with the pillar to be left by the land owner or operator of an adjoining property that will be a sufficient barrier to safeguard life and property in case the mine or mines of either property should be filled with water or endangered from any other cause.

Section 2. Whenever a gangway, airway, breast or any other opening in a mine has reached within three hundred feet of any boundary line of any adjoining mine or property it shall be the duty of the mine foreman to suspend work in said opening until the width of the pillar necessary to safeguard life and property shall have been decided upon and he shall notify the inspector whose duty it shall be to look into the matter and, with the engineers of both properties, shall forthwith decide upon the width of the pillar required.

Section 3. If the inspector and said engineers shall fail to agree on the width of said pillar the matter in dispute shall be referred to the Chief of the Department of Mines, and if he is not able to amicably settle the dispute he shall select three (3) disinterested engineers who shall decide upon the width of said pillar and their decision shall be final. The cost of the investigations made by the three engineers so selected shall be paid jointly by said land owners and operators.

Section 4. If at any time a barrier pillar as provided for in the previous section of this article should have fully served its purpose and shall no longer be necessary in the interest of safety the same may be removed if upon petition of the adjoining operator to the mine inspector of the district the board that established such pillar or a new board selected for the purpose shall give its approval in writing for the removal of said pillar.

Section 5. Any land owner or operator who shall fail or neglect to comply fully with the provisions of this article shall be deemed guilty of an offense against this act, and in addition there shall be liable to the operator or owner of the adjoining property in a sum equivalent to treble the value of the coal mined beyond the boundary line established in accordance with the provisions of this article; said sum to be recovered with costs of suit, by action of trespass, and no prosecution by indictment under this act shall be a bar to such action.

Section 6. Any owner or operator who fails to comply with any of the provisions of this article shall be deemed guilty of an offense against this act.

If the Anthracite coal mines of Pennsylvania are not protected by proper barrier pillars, the fault cannot be charged to the Department of Mines, as the instructions to the inspectors since 1899 have always been positive in demanding that such pillars be maintained, and when the operators failed to do so, the matter has been taken to court for settlement. Many barrier pillars, however, were destroyed before 1899.

A case against John C. Haddock, of the Plymouth Coal Company, was taken to court by Inspector D. T. Davis, under the instruction of the Department, and the Department won its point under the ruling of the late Judge Ferris. Mr. Haddock appealed the case to the Supreme Court of Pennsylvania, but was again defeated. He then made an appeal to the Supreme Court of the United States, only to meet with final defeat. Messrs. Atherton and Jones represented the Department in the Luzerne County Court, and also before the Pennsylvania Supreme Court. Before the United States Supreme Court, the Department was represented by the Attorney General of Pennsylvania and the Honorable B. R. Jones. The opinion of the latter court, in sustaining the constitutionality of the Anthracite Mine Act of June 2, 1891, is given herewith:

OPINION OF THE SUPREME COURT OF THE UNITED STATES

In Plymouth Coal Company, plaintiff in error, v. Commonwealth of Pennsylvania (October T., 1913, No. 102), the Supreme Court of the United States, in an opinion filed February 24th, affirming the judgment of the Supreme Court of Pennsylvania, in Commonwealth v. Plymouth Coal Company, 232 Pa. 141, itself affirming the decree of the Court of Common Pleas of Luzerne County, upon the opinion of Judge Ferris, sustained the constitutionality of Section 10 of Article III of the Anthracite Mining Act of June 2, 1891, P. L. 176, which provides that "it shall be obligatory on the owners of adjoining coal properties to leave, or cause to be left, a pillar of coal in each seam or vein of coal worked by them along the line of adjoining property," as a valid exercise of the police power by the Legislature and not in violation of the 14th Amendment. Justice Pitney, in delivering the opinion of the court, said:

"That the business of mining coal is attended with dangers that render it the proper subject of regulation by the states in the exercise of the police power is entirely settled: Holden v. Hardy, 169 U. S. 366, 393; St. Louis Consolidated Coal Company v. Illinois, 185 U. S. 203, 207; Barrett v. Indiana, 229 U. S. 26, 29.

"Legislation requiring the owners of adjoining coal properties to cause boundary pillars of coal to be left of sufficient width to safeguard the employes of either mine in case the other should be abandoned and allowed to fill with water cannot be deemed an unreasonable exercise of the power. In effect it requires a comparatively small portion of the valuable contents of the vein to be left in place, so long as may be required for the safety of the men employed in mining upon either property.

"All of this is very frankly admitted by plaintiff in error, and the criticism upon Section 10 of the act is confined to the single ground that the method of fixing the width of the barrier pillar is so crude, uncertain and unjust as to constitute a taking of property without due process of law.

"So far as the record discloses, this particular objection was not brought to the attention of the State courts as a ground for holding the section in question to be unconstitutional. * * *

"The objections of plaintiff in error to the method of fixing the width of the barrier pillar are based upon the supposed uncertainty and want of uniformity in the membership of the statutory tribunal, and upon the fact that the statute does not expressly provide for notice to the parties interested, that the procedure is not prescribed, and that there is no right of appeal.

"The Legislature has not defined with provision the width of the pillar, and it is very properly admitted that in the nature of things this would have been impossible, because the width necessary in each case must be determined with reference to the situation of the particular property. From this it necessarily results that it was competent for the Legislature to lay down a general rule, and then establish an administrative tribunal with authority to fix the precise width or thickness of pillar that will suit the necessities of the particular situation, and constitute a compliance with the general rule: United States v. Grimaud, 220 U. S. 506, 517-522. * * *

"But it is insisted that under the language of the act before us the tribunal lacks uniformity, and there is uncertainty respecting the manner of its constitution. It is said that on one side of the property line there might be but a single owner, while on the other side there might be several owners, and the engineers representing the latter might outnumber and combine against the representative of the single owner and compel him to leave a barrier pillar of an unreasonable width. This objection is for present purposes sufficiently disposed of by the decisions of the Supreme Court of Pennsylvania which establish that the tribunal is composed of three, namely, the inspector and two engineers. We see no difficulty in working this out in practice. The owner on each side has a single engineer in the make-up of the body; and if there be a sub-division of the property on one side of the line there would, no doubt, be separate findings with respect to the frontage of each sub-division.

"It is objected that the act presupposes a condition which does not always exist, viz, that the owners of coal properties have engineers in their employ; whereas, it is insisted that there are many coal owners who employ no engineer, especially among the lessors of coal property. But it cannot be seriously doubted, the business under regulation being so dangerous, that it is within the power of the State to declare that coal mining shall not be conducted without the employment of an engineer; and we deem it to be within the competency of the law-making power to require, also, that notice of such a proceeding be given to the lessee actually in charge of the mining operations, leaving the lessor's interest to be represented by him. It is the lessee whose conduct is to be controlled. The lessor's interest is not so directly involved, and for the purpose in hand is not opposed to that of the lessee. It is not a judicial but a quasi-legislative proceeding. And if the lessor desires to participate, it is not to be supposed that he would have difficulty in obtaining a hearing.

"A requirement of reasonable notice to the lessee seems to be implied in the language of the section. There is to be a 'determination' by a tribunal of which the lessee's representative is a member. Assuming, as we do, that for constitutional reasons there must be a fair though summary hearing, it requires no very clear expression to justify such a construction of the section as will render notice obligatory. Certainly this court ought not to adopt a contrary construction in the absence of something in the State decisions to require it. * * *

"It is objected that the act does not state whether the tribunal must be unanimous in order to reach a determination, or what shall be done in case of disagreement; and it is argued that in case of such disagreement the solution of the question to be determined might be delayed for such a length of time as to embarrass the mining operations and throw the workmen out of employment. Here, again, plaintiff in error seems to be unnecessarily borrowing trouble, but we will deal with the point on its merits. This particular objection does not seem to be met by the decision of the State court, either in the present case, or in that of Curran v. Delano, 235 Pa. 478. They seem to hold simply that the tribunal is made up of three, without deciding what function is to be performed by the respective members, nor how a conclusion is to be reached. That being so, it is not incumbent upon us to construe the statute in this regard; but rather, to say merely whether the section admits of any reasonable construction that will sustain its constitutionality.

"For in cases other than such as arise under the contract clause of the Constitution, it is the appropriate function of the court of last resort of a state to determine the meaning of the local statutes. And in exercising the jurisdiction conferred by Section 237, Jud. Code, it is proper for this court rather to wait until the State court has adopted a construction of the statute under attack than to assume in advance that a construction will be adopted such as to render the law obnoxious to the Federal Constitution: Bachtel v. Wilson, 204 U. S. 36, 40; Adams v. Russell, 229 U. S. 353, 360.

"And, even aside from the consideration just adverted to, it is a general and fundamental rule that if a statute be reasonably susceptible of two interpretations, one of which would render it unconstitutional and the other valid, it is the duty of the courts to adopt that construction which will uphold its validity; there being a strong presumption that the law-making body has intended to act within, and not in excess of, its constitutional authority: Sinking Fund Cases, 99 U. S. 700, 718; Mugler v. Kansas, 123 U. S. 623, 661; Knights Templars' Indemnity Co. v. Jarman, 187 U. S. 197, 205; United States v. Delaware & Hudson Co., 213 U. S. 407.

"Approaching the subject from this point of view, we observe, first, the language of the section—'such width of pillar to be determined by the engineers of the adjoining property owners, together with the inspector of the district in which the mine is situated.' Attention has already been called to the qualifications of the inspector, and the safeguards surrounding the mode of his appointment. The statute confers upon him most important powers, and gives him access to complete information respecting the problems that come before him. There is provision, also, for his removal if neglectful or incompetent, or if guilty of malfeasance in office.

"In the clause in question, we think it is quite reasonable to interpret the words 'together with the inspector of the district' as meaning that the inspector shall be of the quorum—shall participate in any determination that is made. But the 'matter is to be determined by the engineers, * * * together with the inspector.' The phrase, of course, admits of the interpretation that if the engineers agree, the added approval of the inspector shall end the matter. We think it not an unreasonable construction that if the engineers disagree they shall submit their differences to the inspector, and that a determination agreed to by one of them in conjunction with the inspector shall fulfill the requirements of the act. It must be remembered that this tribunal is to settle, not a private property right, but a matter affecting the public safety; hence, in the absence of clear language to the contrary, the section is open to the construction that, as in other public matters, a majority of the referees or arbitrators may act: Omaha v. Omaha Water Company, 218 U. S. 180, 192.

"It is further objected that the statute provides for no appeal from the determination of the tribunal. But in such cases the right of appeal on other than constitutional grounds may be conferred or withheld, at the discretion of the Legislature. As already pointed out, an appeal on fundamental grounds in this instance seems to inhere in the very practice prescribed by the statute for the enforcement of the determination of the statutory tribunal. Were this not expressed in the act, it would none the less be implied, at least so far as pertains to any violation of rights guaranteed by the 14th Amendment: Yick Wo v. Hopkins, 118 U. S. 356, 370; Lieberman v. Van De Carr, 199 U. S. 552, 562.

"Judgment affirmed."

SUGGESTIONS FOR THE PREVENTION OF ACCIDENTS IN AND ABOUT THE ANTHRACITE MINES

In the hope of reducing the number of accidents that every year bring death or injury to a large number of mine employes, and realizing that the laws, even though they be fully enforced, are not affording sufficient protection, a number of Safety Suggestions were made to the operators during the latter part of the year, accompanied by an earnest request for their adoption. The Inspectors were at the same time instructed to enforce compliance with the suggestions whenever practicable to do so. It is gratifying to state that the operators have with great unanimity adopted the suggestions and have evinced a genuine desire to make them effective. This we feel sure will result in materially reducing the number of accidents. The suggestions are contained in the communication printed herewith addressed to the General Managers of the various companies. The instructions to the inspectors follow the suggestions.

"Department of Mines,
Harrisburg, Pa., December 20, 1913.

Dear Sir:—You are aware that the Department of Mines through its inspectors has constantly endeavored to reduce accidents in and about the anthracite coal mines, and I am pleased to say that in this work the managers, superintendents and foremen have heartily co-operated; but notwithstanding our united and unremitting efforts, accidents, fatal and otherwise, have occurred with great frequency. Still hopeful, however, that some means might be found by which the lives of the mine workers could be better safeguarded, I called a general meeting of the anthracite inspectors at Wilkes-Barre on the 28th and 29th of October, at which time there was a thorough discussion of the causes of accidents inside and outside the mines. The unanimous opinion was that, to meet the existing conditions, additional safeguards beyond the requirements of the present law must be adopted.

The most prolific causes of accidents inside the mines are falls, cars, blasts, gas, falling into shafts and slopes, suffocation and explosives. During the first eleven months of the present year 510 lives were lost inside the mines as against 463 for the first eleven months of 1912.

If accidents inside the mines are to be reduced, and they should be reduced by one-half, special care and attention must be given to the causes above enumerated. In all mines, but especially in mines where the pitch of the seam is less than 35 degrees, accidents from falls must be given the greatest consideration.

I ask you in the interest of the safety of the mine workers to put in practice the following suggestions:

1. TO REDUCE ACCIDENTS BY FALLS

(a) That in addition to the work of the fire bosses or assistant foremen before the employes enter the mine, as provided by law, you will order that two daily inspections of every working place, (except in mines where breasts are being worked full) be made by the mine foreman or an assistant mine foreman, one between 7 a. m. and 12 noon, and one between 1 p. m. and 5 p. m., while the men are or ought to be at work.

(b) That each mine shall be divided into districts of suitable size and each district shall be placed in charge of an assistant mine foreman.

(c) That the mine foreman shall each day enter plainly and sign with ink, in a book provided for that purpose, a brief report, stating the general conditions as to safety of the portion of the mine examined by him, describing briefly but clearly any dangerous conditions that may have come under his observation and the methods adopted to remove them.

(d) That each assistant mine foreman shall each day enter plainly and sign with ink, in a book provided for that purpose, a report stating the general conditions as to safety of the working places visited in the portion of the mine allotted to him describing briefly but clearly any dangerous conditions that may have come under his observation and the methods adopted to remove them.

(e) That the mine foreman shall read carefully the daily report of each assistant mine foreman not later than the following day and shall countersign the report with ink.

(f) That the mine foreman and assistant mine foreman on their daily inspection tours shall see that General Rule 12 is being complied with, and in addition see that props are properly placed and fastened securely at top and bottom, so they cannot be displaced by flying coal unless broken, but if displaced or broken, they shall be replaced before any other work is done.

(g) That the miners be provided with a sufficient number of sawed cap pieces of suitable length, width and thickness.

(h) That the mine foreman and assistant mine foreman in their daily examinations shall insist that the miner remain at work with his laborer in every place where, in their opinion, danger is to be apprehended from falls of roof or coal, and at all times where pillars are being removed.

2. TO REDUCE ACCIDENTS BY MINE CARS

(a) That all gangways and main haulage roads driven after January 1, 1914, where employes travel and coal is hauled thereon, shall have a clear space of two and one-half feet from the top rail of the car to the rib, and also to the timber, which shall be made and continued throughout on the same side of the passageway, if, in the judgment of the inspector, the conditions will permit; and all such space shall be kept free from obstructions. However, if it is found impracticable by the inspector to provide such spaces, then safety holes of ample dimensions shall be made on the same side, and not more than 100 feet apart, which shall be kept clear of obstructions and whitewashed.

(b) That the distance between props and top rails of cars used in breasts shall not be less than two feet and said space shall be kept free from obstructions.

(c) That the height of gangways and traveling-ways wherein employes have to travel into and out of the mines, shall not be less than five feet six inches from the top of sill to roof.

(d) That no person under the age of 17 years shall be employed as runner or driver in any mine.

(e) That no person except the driver shall ride on the front end of the car, and no person shall ride between cars, and upon the request of the inspector a seat shall be provided for the driver.

(f) That in slopes where persons are lowered or hoisted special cars shall be provided for that purpose, the cars to be approved by the inspector of the district.

(g) That in gangways where platforms are used, platforms shall not extend over the top rail of the car.

(h) That where chutes are used they shall not extend more than 12 inches over the top rail of the car, unless they are at least 16 inches above the top rail.

(i) That when a breast is finished or abandoned for over 30 days all chutes and platforms that may extend over the top rail of the car shall be removed.

3. TO REDUCE ACCIDENTS BY BLASTS

(a) That wherever practicable, all blasts inside the mines shall be exploded by an electric battery.

(b) That all such batteries used shall be approved by the mine foreman, and he shall instruct the miners as to their use, so blasts can be exploded with greater safety.

(c) That only one kind of explosives shall be used in the same hole.

(d) That all shot holes in coal shall be tamped to the mouth.

(e) That a charge of high explosives in coal that has missed fire shall not be withdrawn nor shall the hole be reopened.

4. TO REDUCE ACCIDENTS FROM EXPLOSIONS OF GAS

(a) That the superintendent shall, as far as practicable, see that the provisions of General Rules 4, 5, 6, 7, 8, 9, 10 and 11 are complied with.

(b) That cross-headings between inlet and outlet airways in each split of air when closed permanently shall be substantially closed with walls of concrete or of stone or brick laid in cement or lime mortar. Provided, however, that the inspector may give written approval of other suitable material in mines with heavy pitches.

(c) That cross-headings between breasts, except those nearest the face, shall be closed, and a brattice from the last cross-heading shall be erected so as to conduct the air to the face. Provided, however, that the closing of such cross-headings and the erection of a brattice may be omitted on the written consent of the inspector.

(d) That each breast when finished shall have a cross-heading driven at the face to prevent an accumulation of explosive gas.

(e) That every permanent overcast or undercast built hereafter shall be substantially built of incombustible material.

(f) That in each mine there shall be telephone connections between the surface and all important parts of the mine, and an attendant shall be on duty at all times at the telephone on the surface.

5. TO REDUCE ACCIDENTS IN SHAFTS

(a) That every shaft and also every slope with an angle of over 35 degrees, wherein men are lowered and hoisted, shall have safety gates at the top and also at each intermediate lift thereof, which shall be controlled by cage, gunboat or car.

(b) That where men are lowered or hoisted in such shafts and slopes, a safety device that will prevent overwinding and also control the speed of cage, gunboat or cars at all times, shall be attached to the engine.

6. TO REDUCE ACCIDENTS BY EXPLOSIVES

(a) That not more than five pounds of high explosives shall be taken into a mine at any one time by any one person, unless more is required for use in that shift.

(b) That high or permissible explosives shall not be sold for use in mines unless the name of the manufacturer and name and grade of explosives are stamped on each stick.

(c) That detonators shall at all times be kept separate and apart from other explosives until required for use.

(d) That no frozen explosives shall be sold or given to any employe.

(e) That no person shall thaw explosives inside or outside the mines, except by the method recommended by the manufacturer.

(f) That black powder shall not be sold loose in kegs, cases or packages, but shall be sold in cartridges, and shall not be taken into the mine, except in non-conductive receptacles.

(g) That detonators shall be sold in boxes of ten in a box, and not more than one box shall be sold to any one person at one time unless more are necessary for a day's work.

4. TO REDUCE ACCIDENTS FROM EXPLOSIONS OF GAS

(a) That when electric power is used in and about the mines, it shall be cared for in accordance with Article XI of the Bituminous Mine Act of June 9, 1911, so far as it can be applied to anthracite mines.

8. GASOLINE AND OIL

(a) That six months after January 1, 1914, locomotives using coal, gasoline or oil shall not be used inside of any mine and the use of gasoline or oil for generating power for any other purpose shall also be prohibited.

9. TO REDUCE ACCIDENTS BY CARS ON SURFACE

(a) That railroad cars and other cars shall be handled with care.

(b) That safety switches shall be placed above all breakers, so as to safeguard the loaders, and at any other place when requested by the inspector.

10. TO REDUCE ACCIDENTS FROM SUFFOCATION IN CHUTES

(a) That no person shall shovel coal in any pocket until the loader is notified.

(b) That the loader shall not load from any pocket until he is informed that the person or persons are out of the pocket.

11. RESCUE AND FIRST AID CORPS SHALL BE ESTABLISHED

(a) That rescue corps and first aid corps shall be established at each colliery or at each group of collieries, as agreed upon between the superintendent and the inspector.

You are kindly requested to order that the suggestions given in this letter be carried out, as it is the sincere desire of the Department, and I know it to be your desire also, to make a record for the year 1914 in the way of reducing accidents in the mines.

Very truly yours,

JAMES E. RODERICK,
Chief of Department of Mines."

INSTRUCTIONS TO MINE INSPECTORS

"December 26, 1913.

Dear Sir:—I enclose herewith a copy of a letter sent to the General Superintendent or the General Manager of each coal company in your district. Please read the letter with care, as I shall expect you to see that the suggestions contained therein are complied with as far as practicable. Whenever you learn that a company is not carrying out the suggestions, you will notify the proper official (not the mine foreman), and if he refuses to comply, you will then notify the Department at once, and further instructions will be given you.

I desire to impress upon you your duty in regard to safeguarding the lives of the employes by seeing that the provisions of the law and the suggestions contained in the letter above referred to are complied with by the officials of all companies. In case of persistent violation of the law, you are instructed to prosecute the guilty persons. In case of loss of life through negligence of an employe or a mine official, you are directed to notify at once the district attorney of the proper county. You will be held responsible by the Department of Mines for any neglect on your part to enforce compliance with the instructions given. I am positive that if you do your duty and see that all other persons connected with mines in your district do the same, fatal and non-fatal accidents will be greatly reduced.

Very truly yours,

JAMES E. RODERICK,
Chief of Department of Mines."

ACCIDENTS

The number of fatal accidents in and about the mines during the year was 624, an increase of 23 over 1912 and a decrease of 75 from 1911. The fatalities do not vary greatly from year to year, but show a gradual increase along with the increased production of coal.

In 1870, as shown by Table L, there were 211 fatal accidents and a production of 14,172,004 net tons. In 1913 there were 624 fatal accidents and a production of 91,626,964 net tons.

The tables herewith give the accidents in detail, showing the causes, location and percentage as related to the number of employes and amount of coal produced.

CAUSES AND LOCATION OF FATAL ACCIDENTS

The records for the year show that as usual the two principal causes of fatal accidents in the anthracite mines were (1) falls of coal, slate and roof and (2) cars. The total number of inside fatal accidents was 557, of which 261, or 46.86 per cent., were caused by falls of coal, slate and roof and 86 or 15.44 per cent. by cars. The other causes were explosions of gas, 48 or 8.62 per cent.; explosions of powder and dynamite, 11, or 1.97 per cent.; electricity, 1, or .18 per cent.; blasts, 62, or 11.13 per cent.; falling into shafts, suffocation by gas and miscellaneous causes, 88, or 15.80 per cent.

The accidents by falls of coal occurred as follows: at face of working places, 45; at pillar work, 14; on gangways while timbering and repairing, 3; on gangways while riding on cars, 1; in crosscuts, 3; in airways, 1; a total of 67, or 25.67 per cent. By falls of slate at face of workings, 27; at pillar work, 4; on gangways while timbering and repairing, 4; on gangways while riding on cars, 2; a total of 37, or 14.18 per cent. By falls of roof at face of workings, 125; at pillar work, 16; on gangways while timbering and repairing, 7; on gangways while riding on cars, 3; in crosscut, 1; on slopes, 2; in airways, 1; on tunnel going out of mine, 1; near foot of slope while riding on cars, 1; a total of 157, or 60.15 per cent.

The total number of fatal accidents by falls of coal, slate and roof at face of working places was 197, or 75.48 per cent.; at pillar work, 34, or 13.03 per cent.; on gangways while timbering and repairing, 14, or 5.36 per cent.; on gangways while riding on cars, 6, or 2.30 per cent.; in crosscuts, 4, or 1.53 per cent.; in airways, 2, or .77 per cent.; on slopes, 2, or .77 per cent.; on tunnel going out of mine, 1, or .38 per cent.; near foot of slope while riding on cars, 1, or .38 per cent.

Eighty-six persons were killed by cars, 40 of whom were killed on gangways, 20 on slopes, and 26 at other places.

Fifty-two persons were killed by blasts at face of working places and 10 persons by explosions of blasts at other places. Explosions of powder and dynamite on gangways and at other places killed 11 persons.

Of the accidents on the surface, 37 or 55.23 per cent. were caused by cars; 12, or 17.91 per cent. by machinery, and 18, or 26.86 per cent. by other causes.

The table submitted herewith shows the accidents in each inspection district by falls and other causes.

These reports show 158 miners killed by falls: 123, or 77.85 per cent. were killed at face of working places; 24, or 15.19 per cent. while removing pillars; 5, or 3.16 per cent. on gangways while timbering and repairing; 2, or 1.27 per cent. on gangways while riding on cars, and 4, or 2.53 per cent., in crosscuts. Of the 158 fatalities, 123, or 77.85 per cent. were due to the carelessness of the victims; 2, or 1.26 per cent. to the carelessness of others, and 33, or 20.89 per cent. were unavoidable.

Twelve miners killed by mine cars: 4, or 33.33 per cent. on gangways; 4, or 33.33 per cent. in chambers; 2, or 16.67 per cent. on slopes, and 2, or 16.67 per cent. in tunnel. Of the 12 fatalities, 11 or 91.67 per cent. were due to the carelessness of the victims, and 1, or 8.33 per cent. was unavoidable.

Twenty miners were killed by explosions of gas: 14, or 70.00 per cent. of whom were in chambers; 1, or 5.00 per cent. on plane; 1, or 5.00 per cent. on gangway; 1, or 5.00 per cent. in old workings; 1, or 5.00 per cent. in heading, and 2, or 10.00 per cent. in tunnel. Of the 20 fatalities, 12 or 60.00 per cent. were due to the carelessness of the victims; 3, or 15.00 per cent. to the carelessness of others, and 5, or 25.00 per cent. were unavoidable.

Eight miners were killed by explosions of powder and dynamite: 6, or 75.00 per cent. of whom were killed at face of workings; 1, or 12.50 per cent. of whom were killed on gangways, and 1, or 12.50 per cent. in crosscuts. Of the 8 fatalities, 7, or 87.50 per cent. were due to the carelessness of the victims and 1, or 12.50 per cent. was unavoidable.

Forty-eight miners killed by blasts: 43, or 89.58 per cent. of whom were killed at face of workings; 2, or 4.17 per cent. on gangways, and 3, or 6.25 per cent. in crosscuts. Of the 48 fatalities, 41, or 85.42 per cent. were due to the carelessness of the victims, 1, or 2.08 per cent. to the carelessness of others and 6, or 12.50 per cent. were unavoidable.

Three miners killed, falling down shaft, through their own carelessness.

Three miners killed, falling down chute, through their own carelessness.

Two miners killed, falling down chamber, accidents were unavoidable.

Five miners killed, falling down manway, 3, or 60.00 per cent. were due to the carelessness of the victims and 2, or 40.00 per cent. were unavoidable.

Two miners killed, crushed at batteries, 1, or 50.00 per cent., due to the carelessness of the victim, and 1, or 50.00 per cent., was unavoidable.

One miner killed by electricity on gangway, through his own carelessness.

Five miners suffocated by gas: 2, or 40.00 per cent., were due to the carelessness of the victims; 1, or 20.00 per cent., to the carelessness of others, and 2, or 40.00 per cent., were unavoidable.

Five miners killed, struck by posts, 3, or 60.00 per cent., due to the carelessness of the victims, and 2, or 40.00 per cent. were unavoidable.

One miner killed, struck by rope, through his own carelessness.

One miner killed, struck by pick handle, through his own carelessness.

One miner killed, struck by iron gate, through his own carelessness.

Seven miners killed, rush of coal, 6, or 85.71 per cent., due to the carelessness of the victims, and 1, or 14.29 per cent., was unavoidable.

Two miners killed, rush of water on gangway, through their own carelessness.

Two miners killed, rush of coal and water, the accidents were unavoidable.

The total number of miners killed was 286. Two hundred and nineteen, or 76.57 per cent., were killed through their own carelessness; 7, or 2.45 per cent., through the carelessness of others, and 60, or 20.98 per cent., were unavoidable.

Eighty-two miners' laborers killed by falls, 65 or 79.27 per cent. of whom were killed at face of workings; 10, or 12.19 per cent., while removing pillars; 4, or 4.88 per cent., on gangways while timbering and repairing; 1, or 1.22 per cent., on slope; 1, or 1.22 per cent. in airway; 1, or 1.22 per cent., in tunnel going out of mine. Of the 82 fatalities, 32, or 39.03 per cent., were due to the carelessness of the victims; 13, or 15.85 per cent., to the carelessness of others, and 37, or 45.12 per cent. were unavoidable.

Nineteen miners' laborers killed by cars: 6, or 31.58 per cent., of whom were killed on gangways; 2, or 10.53 per cent., in chambers; 7, or 36.84 per cent., on slopes; 1, or 5.26 per cent., at foot of slope; 1, or 5.26 per cent., in tunnel, and 2, or 10.53 per cent., on plane. Of the 19 fatalities, 14, or 73.69 per cent., were due to the carelessness of the victims, 1, or 5.26 per cent., to the carelessness of others, and 4, or 21.05 per cent. were unavoidable.

Eleven miners' laborers killed by explosions of gas: 4, or 36.36 per cent., of whom were killed in chambers; 1, or 9.09 per cent., in old workings, and 6, or 54.55 per cent., in tunnel. Of the 11 fatalities, 2, or 18.18 per cent., were due to the carelessness of the victims, 2, or 18.18 per cent. to the carelessness of others and 7, or 63.64 per cent. were unavoidable.

Eleven miners' laborers were killed by blasts: 8, or 72.73 per cent., of whom were killed at face of workings; 2, or 18.18 per cent., in crosscuts, and 1, or 9.09 per cent., in gangway. Of the 11 fatalities, 9, or 81.82 per cent., were due to the carelessness of the victims, and 2, or 18.18 per cent., were unavoidable.

Three miners' laborers killed by explosions of powder and dynamite, 2, or 66.67 per cent., of whom were killed at face of workings, and 1, or 33.33 per cent., in tunnel. The 3 fatalities were due to their own carelessness.

Four miners' laborers suffocated by gas, 3, or 75.00 per cent., due to the carelessness of others, and 1, or 25.00 per cent., was unavoidable.

Eight miners' laborers killed by falling down shaft, 7, or 87.50 per cent., due to the carelessness of the victims, and 1, or 12.50 per cent., was unavoidable.

One miner's laborer killed, falling down slope, through his own carelessness.

One miner's laborer killed, crushed at battery, the accident was unavoidable.

One miner's laborer suffocated by fumes from explosion of dynamite, through the carelessness of others.

One miner's laborer killed, struck by car wheel, through the carelessness of others.

Three miners' laborers killed, struck by posts, 2, or 66.67 per cent., were due to the carelessness of the victims, and 1, or 33.33 per cent., was unavoidable.

One miner's laborer killed, struck by piece of coal, through his own carelessness.

Two miners' laborers killed, struck by piece of rock, 1, or 50.00 per cent., was due to the carelessness of the victim, and 1, or 50.00 per cent., was unavoidable.

The total number of miners' laborers killed was 148, 72, or 48.65 per cent., of whom were killed through their own carelessness, 21 or 14.19 per cent., through the carelessness of others, and 55, or 37.16 per cent., were unavoidable.

Thirty-three drivers and runners were killed. Of this number, 1, or 3.03 per cent., was killed by falls at face of workings; 1, or 3.03 per cent., on gangways, while timbering and repairing; 1, or 3.03 per cent., on gangways while riding on cars; 1, or 3.03 per cent., on slope; 1, or 3.03 per cent., near foot of slope; 14, or 42.43 per cent., were killed by cars on gangways; 2, or 6.06 per cent., in chambers; 2, or 6.06 per cent. in tunnel; 2, or 6.06 per cent., on slopes; 1, or 3.03 per cent., near foot of shaft; 1, or 3.03 per cent., by explosion of gas in tunnel; 1, or 3.03 per cent., by blast on plane; 2, or 6.06 per cent., kicked by mules; 1, or 3.03 per cent., struck by piece of rock from gob; 1, or 3.03 per cent., struck by post on gangway, and 1, or 3.03 per cent., struck by wooden rail on plane. Of the 33 fatalities, 22, or 66.67 per cent., were due to the carelessness of the victims, 1, or 3.03 per cent., to the carelessness of others, and 10, or 30.30 per cent., were unavoidable.

Thirteen company men were killed. Of this number, 3, or 23.08 per cent., by fall at face of working place; 1, or 7.69 per cent., by fall on gangway, while timbering and repairing; 1 or 7.69 per cent., by fall in airway; 2, or 15.39 per cent., by cars on gangway; 1, or

7.69 per cent., by cars on plane; 1, or 7.69 per cent., by cars on slope; 1, or 7.69 per cent., by cars at foot of shaft; 1,or 7.69 per cent., by explosion of gas in old workings, and 1, or 7.70 per cent. dragged by mule on slope. Of the 13 fatalities, 7, or 53.85 per cent., were due to the carelessness of the victims; 1, or 7.69 per cent., to the carelessness of others, and 5, or 38.46 per cent., were unavoidable.

Seventy-seven other persons were killed, including 3 mine foremen, 8 fire bosses, 1 pumpman, 7 doorboys and helpers, 2 engineers, 5 headmen, 3 brakemen, 1 rockman, 1 tracklayer, 3 motormen, 3 masons, 3 blacksmiths, 1 rock contractor, 5 footmen, 2 driver bosses, 1 switchman, 2 shaftmen, 1 patcher, 1 hitcher, 1 roadman, 3 repairmen, 2 motor helpers, 1 machine runner, 1 spragger, 1 laborer, 1 bratticeman, 3 bottom men, 1 topman, 2 timbermen, 2 loaders, 1 mucker boss, 1 machinist, 1 batteryman, 1 superintendent, 1 starter and 1 cable boy. Of the 77 fatalities, 44, or 57.14 per cent., were due to the carelessness of the victims, 5, or 6.49 per cent., to the carelessness of others, and 28, or 36.37 per cent., were unavoidable.

Of the 557 accidents that occurred inside the mines, 364, or 65.35 per cent., are attributed to the carelessness of the victims themselves, 35, or 6.28 per cent., to the carelessness of others, and 158, or 28.37 per cent., to unavoidable accidents.

Causes and Location of Fatal Accidents, by Districts, 1913

Inside	Districts																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Totals
Falls of coal at face,	....	1	....	1	....	2	5	....	8	1	2	2	5	1	3	6	1	5	1	....	1	45
Falls of coal at pillar work,	....	....	....	....	....	3	2	....	....	3	2	....	....	1	....	....	1	....	2	....	....	14
Falls of coal on gangway while timbering and repairing,	....	....	....	....	....	....	....	....	....	....	2	....	1	....	....	....	....	....	....	....	....	3
Falls of coal on gangway while riding on cars,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
Falls of coal in heading,	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....	1	....	3
Falls of coal in airway,	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1
Falls of slate at face,	....	....	....	....	....	....	5	3	....	....	4	6	1	....	2	1	....	....	3	2	....	27
Falls of slate at pillar work,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	1	....	1	....	....	....	4
Falls of slate on gangway while timbering and repairing,	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	1	1	....	....	4
Falls of slate on gangway while riding on cars,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1	....	2
Falls of roof at face,	12	27	7	8	10	14	4	15	7	8	....	3	1	....	....	....	4	1	....	....	4	125
Falls of roof at pillar work,	6	....	....	....	1	3	....	1	....	2	....	....	....	....	....	....	....	1	....	....	2	16
Falls of roof on gangway while timbering and repairing,	....	....	....	1	....	....	....	1	2	....	....	....	1	....	....	1	....	....	....	1	....	7
Falls of roof on gangway while riding on cars,	....	....	....	....	....	....	....	1	....	1	....	....	1	....	....	....	....	....	....	....	....	3
Falls of roof in tunnel going out of mine,	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
Falls of roof near foot of slope,	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Falls of roof in heading,	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Falls of roof in airway,	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1
Falls of roof on slope,	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1	2
Cars on gangway,	2	3	4	1	2	1	2	6	....	....	2	4	3	1	1	....	2	1	....	2	3	40
Cars in chamber,	....	2	2	1	....	....	....	1	....	1	1	....	....	....	1	....	....	....	....	....	....	9
Cars on slope,	....	....	....	....	....	1	2	5	....	3	2	....	1	....	2	2	....	1	1	....	....	20
Cars on plane,	....	1	1	....	1	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5
Cars in tunnel,	....	....	....	....	....	....	1	....	....	....	....	1	....	1	....	....	1	2	....	....	....	6
Cars at foot of shaft,	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Cars at foot of slope,	....	1	....	....	....	....	....	....	....	1	....	....	....	....	1	1	....	....	....	....	....	4
Explosions of gas in tunnel,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	20	....	20
Explosions of gas in chamber,	....	....	2	1	....	....	3	....	....	3	....	3	....	....	....	1	3	....	3	1	....	20
Explosions of gas on gangway,	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	2
Explosions of gas in old workings,	....	....	....	....	....	1	....	....	2	....	....	....	....	....	1	....	....	....	....	....	....	4
Explosions of gas in heading,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Explosions of gas on plane,	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Suffocated by gas in chamber,	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	3
Suffocated by gas on gangway,	....	....	....	....	....	....	....	....	2	....	....	....	....	....	1	....	....	....	....	....	....	3

Suffocated by gas in heading,	....	....	....	....	....	....	....	....	....	....	....	....	1	...	....	1	....	....	....	....	....	2
Suffocated by gas in airway,	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	2
Suffocated by fumes from dynamite explosion on gangway,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	2
Suffocated by rush of coal and water on gangway,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	2
Suffocated by falling into box chute,	....	....	....	....	....	....	....	....	....	....	....	....	...	....	....	....	1	....	....	1	....	2
Explosions of powder and dynamite at face,	....	2	....	1	2	1	1	....	....	....	....	....	....	....	1	....	....	....	....	....	....	8
Explosions of powder and dynamite on gangway,	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Explosions of powder and dynamite in heading,	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Explosions of powder and dynamite in tunnel,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
Explosions of blasts at face,	3	4	5	3	1	6	5	9	4	....	2	....	3	1	1	2	....	2	1	....	....	52
Explosions of blasts in heading,	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1	....	....	3	5
Explosions of blasts on plane,	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Explosions of blasts on gangway,	....	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	1	....	....	....	3
Falling down shafts,	....	4	....	....	....	....	3	1	1	....	....	....	2	....	....	....	4	2	....	....	....	17
Falling into slopes, etc.,	....	....	....	....	....	....	....	....	....	....	....	....	3	3	....	1	1	2	....	3	....	13
Crushed at batteries,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	1	....	....	....	3
Animals,	1	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	3
Machinery,	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	2
Electricity,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1
Struck by piece of rock,	1	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Struck by timber,	....	....	....	....	....	....	2	1	....	2	....	....	3	....	1	....	1	1	....	....	....	11
Struck by piece of coal,	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Struck by piece of concrete,	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	2
Struck by car wheel,	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1
Struck by rope,	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1
Struck by drill,	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1
Struck by cage,	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1
Struck by gate,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1
Struck by pick handle,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Struck by wooden rail,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Rush of coal,	....	....	....	....	....	....	....	....	....	....	....	3	....	2	....	....	2	....	....	....	....	7
Rush of water,	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	2
Concussion from fall,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	26	45	21	20	20	35	42	46	33	30	20	23	26	13	22	19	26	26	15	33	16	557

Causes and Location of Fatal Accidents, by Districts, 1913—Continued

Outside	Districts																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Totals
Cars,	1	....	....	2	....	1	4	....	1	....	1	5	2	1	2	3	6	1	1	2	4	37
Machinery,	....	....	1	1	....	....	....	....	1	1	....	2	....	1	....	....	....	2	....	1	2	12
Electricity,	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
Suffocated by rush of culm,	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Suffocated in chute,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1
Struck by piece of iron,	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Struck by iron post,	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Struck by cage,	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Struck by cog wheel,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1
Struck by lever,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1
Falling from scaffold,	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Falling off platform,	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1
Falling off coal pile,	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1
Falling off chute,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	1
Burned by ashes,	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1
Explosion of powder,	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	2
Rush of culm,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	2
Totals,	2	1	1	5	....	1	5	1	3	2	3	7	3	3	3	3	7	5	3	3	6	67
Grand totals inside and outside,	28	46	22	25	20	36	47	47	36	32	23	30	29	16	25	22	33	31	18	36	22	624

CAUSES AND LOCATION OF FATAL ACCIDENTS, 1910-1913, INCLUSIVE

This table shows that the causes of accidents and the places they occur are very much the same from year to year. This is especially true of falls of coal, slate and roof, which occur at the face, while removing pillars, while repairing gangways or while working at the face of gangways.

The accidents by cars and the explosions of blasts occur from year to year in about the same way and at the same relative places.

During the period covered by the table 1,013 fatal accidents inside were caused by falls or 46.49 per cent. of the total number; 348 by cars, or 15.97 per cent. of the total number; 240 by blasts, or 11.01 per cent. of the total number; 79 by powder explosions, or 3.62 per cent. of the total number, and only 137 by explosions of gas or 6.29 per cent. of the total number.

Most of the victims could have been saved had they used proper precaution.

The accidents from blasts and explosives number about 15 per cent., and are chargeable directly to the miner who extracts the coal. Of the 1,253 accidents by falls and cars, at least one-half could have been prevented by proper prudence and care.

Causes and Location of Fatal Accidents Inside, 1910-1913, Inclusive

	1910	1911	1912	1913	Totals	Percentage
By falls of coal, slate and roof						
At face of working places,	173	166	153	197	689	....
At pillar work,	31	44	37	34	146	....
On gangway while timbering and repairing,	24	20	36	14	94	....
Back in chambers,	21	15	4	....	40	....
On slopes,	2	1	1	2	6	....
At cross headings,	2	2	4	4	12	....
In old workings,	....	1	3	....	4	....
In chutes,	....	1	4	....	5	....
In tunnels,	....	1	....	1	2	....
In strange chambers,	....	2	....	....	2	....
In airways,	....	....	1	2	3	....
At bottom of slopes,	....	....	1	1	2	....
On planes,	....	....	1	....	1	....
In sumps,	....	....	1	....	1	....
While riding cars on gangways,	....	....	....	6	6	....
Totals and percentage,	253	253	246	261	1,013	46.49
By cars						
On gangways,	57	47	55	40	199	....
In chambers,	6	11	2	9	28	....
On slopes,	17	18	14	20	69	....
At foot of shafts,	2	4	2	2	10	....
At foot of slopes,	8	5	2	4	19	....
At dump chutes,	2	2	....	....	4	....
In tunnel,	....	3	1	6	10	....
At mouth of drifts,	....	1	....	....	1	....
On planes,	....	1	2	5	8	....
Totals and percentage,	92	92	78	86	348	15.97
By explosions of blasts						
At face of working places,	48	59	46	52	205	....
On gangways,	6	1	....	3	10	....
At pillar work,	4	1	....	....	5	....
In cross headings,	1	6	4	5	16	....
In tunnels,	1	....	....	....	1	....
In old workings,	....	....	1	....	1	....
On planes,	....	....	....	2	2	....
Totals and percentage,	60	67	51	62	240	11.01

	1910	1911	1912	1913	Totals	Percentages
By explosions of powder and dynamite						
At face of working places,	9	6	9	8	32	....
On gangways,	....	13	12	1	26	....
In cross headings,	7	2	4	1	14	....
In tunnels,	1	....	....	1	2	....
Location not given,	5	....	....	....	5	....
Totals and percentage,	22	21	25	11	79	3.62
By explosions of gas						
In chambers,	14	13	22	20	69	....
On gangways,	3	9	3	2	17	....
In old workings,	2	3	9	4	18	....
On slopes,	1	....	....	1	2	....
In cross headings,	....	4	....	1	5	....
In tunnels,	....	5	....	20	25	....
In manways,	....	....	1	....	1	....
Totals and percentage,	20	34	35	48	137	6.29
Suffocation by gas,	13	14	5	10	42	1.93
Suffocation by mine fire,	....	*72	....	....	72	3.31
Falling into shafts, slopes, etc.,	19	21	18	30	98	4.50
Crushed at batteries,	3	5	4	3	15	.69
By electricity,	3	2	5	1	11	.50
By machinery,	2	4	....	2	8	.37
Miscellaneous causes,	22	30	31	43	116	5.32
Grand totals and percentage	509	615	498	557	2,179	100.00

*Pancoast disaster.

COMPARATIVE TABLE OF ACCIDENTS

Pennsylvania—United States, 1899-1913, Inclusive

The table herewith shows the fatal accidents in the anthracite mines of Pennsylvania as compared with those in the bituminous mines of the United States.

During the fifteen years, 3.66 lives were lost per 1,000 employes in the mines of United States as against 3.49 in the anthracite mines. In the United States 5.55 lives were lost for every 1,000,000 tons produced. In the anthracite mines 7.53 lives were lost for every 1,000,000 tons produced. In the United States 180,272 tons were produced per life lost. In the anthracite mines 132,878 tons were produced per life lost. In the number of accidents per 1,000 employes the anthracite makes the better showing, but there is a larger production of coal per life lost in the United States.

Comparative Table of Accidents, 1899-1913, Inclusive

Years	United States						Pennsylvania					
	Production	Employes	Total accidents	Lives lost per 1,000 employes	Lives lost per 1,000,000 tons produced	Production per life lost	Production	Employes	Total accidents	Lives lost per 1,000 employes	Lives lost per 1,000,000 tons produced	Production per life lost
1899,	244,838,019	396,624	1,216	3.07	4.97	201,347	60,518,331	140,604	461	3.28	7.62	131,276
1900,	260,164,397	432,453	1,492	3.45	5.73	174,373	57,363,396	143,824	411	2.86	7.16	139,570
1901,	288,723,174	476,655	1,549	3.25	5.37	186,393	67,094,665	147,651	513	3.47	7.65	130,789
1902,	296,687,066	510,437	1,895	3.71	6.39	156,563	41,340,935	148,139	300	2.03	7.26	137,803
1903,	345,200,166	547,431	1,752	3.20	5.08	197,317	75,232,563	151,827	518	3.41	6.89	145,237
1904,	339,164,812	573,373	2,004	3.50	5.91	169,244	73,594,369	161,330	595	3.69	8.08	123,688
1905,	386,379,243	615,628	2,232	3.63	5.78	173,109	78,647,020	168,254	644	3.83	8.19	122,123
1906,	407,835,003	631,086	2,116	3.35	5.19	192,710	72,139,510	166,175	557	3.35	7.72	129,514
1907,	461,406,023	655,418	3,197	4.88	6.93	144,325	86,056,412	168,774	708	4.20	8.23	121,549
1908,	404,932,764	672,794	2,449	3.64	6.05	165,346	83,543,243	174,503	678	3.88	8.12	123,220
1909,	460,761,427	666,523	2,668	4.00	5.79	172,699	80,223,833	171,195	567	3.31	7.07	141,488
1910,	501,596,378	725,030	2,840	3.92	5.66	176,618	83,683,994	166,175	601	3.57	7.18	139,241
1911,	496,221,168	728,348	2,719	3.73	5.48	182,501	90,917,176	173,338	699	4.03	7.69	130,067
1912,	534,466,580	722,662	2,360	3.27	4.41	226,469	84,426,869	175,098	601	3.43	7.12	140,477
1913,	*570,000,000	*728,355	*2,785	3.82	4.88	204,688	91,626,964	175,310	624	3.56	6.81	146,838
Totals and averages,	5,998,376,220	9,082,817	33,274	3.66	5.55	180,272	1,126,409,280	2,432,197	8,477	3.49	7.53	132,878

*Estimated.

Table showing companies that had fatal accidents inside or outside their mines; causes of accidents, fatalities per 1,000 employes and per 1,000,000 tons produced, 1913

Companies	Production net tons	Employes inside	Causes of Fatal Accidents Inside				Total fatal accidents inside	Fatalities inside per 1,000 employes	Fatalities inside per 1,000,000 tons produced	Employes outside	Causes of Fatal Accidents Outside				Total fatal accidents outside	Grand total fatal accidents inside and outside	Grand total employes	Fatalities inside and outside per 1,000 employes	Fatalities inside and outside per 1,000,000 tons produced
			Falls	Cars	Gas	Miscellaneous causes					Cars	Machinery	Electricity	Miscellaneous causes					
Philadelphia and Reading Coal and Iron Company,	12,705,331	19,055	30	12	24	22	88	4.62	6.93	7,875	9	3	....	3	15	103	26,930	3.82	8.11
Delaware, Lackawanna and Western Railroad Company,	10,288,190	15,824	31	13	4	27	75	4.74	7.29	3,242	1	1	1	2	5	80	19,066	4.20	7.78
Lehigh Valley Coal Company,	9,056,567	11,215	27	11	1	20	59	5.26	6.51	3,876	3	1	....	2	6	65	15,091	4.31	7.18
Delaware and Hudson Company,	7,336,094	10,961	28	7	....	2	37	3.38	5.04	3,272	3	....	....	3	6	43	14,233	3.02	5.86
Lehigh and Wilkes-Barre Coal Company,	6,405,808	7,902	14	4	3	14	35	4.43	5.46	2,029	2	1	....	....	3	38	9,931	3.83	5.93
Pennsylvania Coal Company,	6,040,021	8,510	16	4	1	7	28	3.29	4.64	2,816	1	....	....	....	1	29	11,326	2.56	4.80
Lehigh Coal and Navigation Company,	4,843,508	6,009	3	3	4	13	23	3.83	4.75	2,531	5	....	....	1	6	29	8,540	3.40	5.99
Scranton Coal Company,	2,423,657	4,055	12	3	....	6	21	5.18	8.66	1,355	....	....	....	....	....	21	5,410	3.88	8.66
Susquehanna Coal Company,	2,247,021	2,907	9	2	3	1	15	5.16	6.68	1,374	....	....	....	....	....	15	4,281	3.50	6.68
Mineral Railroad and Mining Company,	2,238,029	3,730	5	3	1	4	13	3.49	5.81	1,489	2	....	....	....	2	15	5,219	2.87	6.70
Kingston Coal Company,	1,985,275	2,541	6	2	....	4	12	4.72	6.04	894	....	....	....	....	....	12	3,435	3.49	6.04
Hillside Coal and Iron Company,	1,727,768	2,692	5	....	....	5	10	3.71	5.79	946	....	....	....	....	....	10	3,638	2.75	5.79
Hudson Coal Company,	1,718,522	2,767	3	....	....	3	6	2.17	3.49	841	1	....	....	....	1	7	3,608	1.94	4.07
Coxe Brothers and Company, Incorporated,	1,636,341	1,442	1	1	....	1	3	2.08	1.83	783	....	....	....	2	2	5	2,225	2.25	3.06
G. B. Markle Company,	1,625,468	1,636	1	1	....	1	3	1.83	1.85	600	....	....	....	....	....	3	2,236	1.34	1.85
Summit Branch Mining Company,	1,060,270	1,687	2	....	2	1	5	2.96	4.72	763	....	....	....	....	....	5	2,450	2.04	4.72
Price-Pancoast Coal Company,	713,896	1,187	2	1	....	1	4	3.37	5.60	252	....	....	....	....	....	4	1,439	2.71	5.60
A. Pardee and Company,	656,981	1,019	1	1	....	....	2	1.96	3.04	505	1	....	....	....	1	3	1,524	1.97	4.57
Forty Fort Coal Company,	620,712	1,096	2	5	....	3	10	9.12	16.11	296	....	....	....	....	....	10	1,392	7.18	16.11
Sterrick Creek Coal Company,	503,583	812	3	....	....	....	3	3.69	5.96	180	....	....	....	....	....	3	992	3.02	5.96
C. M. Dodson and Company,	440,524	490	1	....	....	1	2	4.08	4.54	254	....	....	....	....	....	2	744	2.69	4.54
Lytle Coal Company,	433,524	594	2	....	1	....	3	5.05	6.92	239	1	....	....	....	1	4	833	4.80	9.23
Mt. Lookout Coal Company,	420,922	621	4	....	....	1	5	8.05	11.88	146	....	....	....	....	....	5	767	6.52	11.88
Lackawanna Coal Company, Limited,	384,842	679	2	1	....	....	3	4.42	7.80	174	....	....	....	....	....	3	853	3.52	7.80
Pine Hill Coal Company,	383,329	540	1	1	....	....	2	3.70	5.22	191	....	....	....	....	....	2	731	2.74	5.22
Plymouth Coal Company,	383,254	618	1	....	....	2	3	4.85	7.83	248	....	....	....	....	....	3	866	3.46	7.83

St. Clair Coal Company,	378,180	394	1	....	....	1	2	4.08	5.29	316	....	....	....	....	....	2	710	2.82	5.29
Harleigh Brookwood Coal Company,	345,685	427	5	1	....	1	7	16.39	20.25	352	....	....	....	....	....	7	779	8.99	20.25
Mt. Jessup Coal Company, Limited,	344,046	511	....	....	....	1	1	1.96	2.91	296	....	1	....	....	1	2	807	2.48	5.81
Alden Coal Company,	337,666	560	1	....	....	1	2	3.57	5.92	177	....	....	....	....	....	2	737	2.71	5.92
Thomas Colliery Company,	322,683	278	....	....	....	1	1	3.60	3.10	213	....	....	....	....	....	1	491	2.04	3.10
Estate A. S. Van Wickle,	318,946	405	1	....	....	....	1	2.47	3.14	215	1	....	....	...	1	2	620	3.23	6.27
Oak Hill Coal Company,	308,278	503	1	....	1	....	2	3.98	6.49	222	....	....	....	....	....	2	725	2.76	6.49
Colonial Collieries Company,	299,852	409	....	1	....	1	2	4.89	6.67	211	....	....	....	....	....	2	620	3.23	4.89
Greenough Red Ash Coal Company,	297,447	385	3	1	....	....	4	10.39	13.45	235	....	....	....	....	....	4	620	6.45	13.45
Moosic Mountain Coal Company,	281,351	407	2	....	....	....	2	4.91	7.11	80	2	....	....	....	2	4	487	8.21	14.22
Wilkes-Barre Anthracite Coal Company,	264,188	324	....	1	....	2	3	9.26	11.36	87	....	....	....	....	....	3	411	7.30	11.36
Red Ash Coal Company,	254,270	349	1	....	....	....	1	2.87	3.93	312	1	....	....	1	2	3	661	4.54	11.80
Excelsior Coal Company,	253,998	443	2	....	....	....	2	4.51	7.87	106	....	....	....	....	....	2	549	3.64	7.87
Buck Run Coal Company,	241,704	332	....	....	....	2	2	6.02	8.27	138	....	....	....	....	....	2	470	4.26	8.27
Elliott McClure and Company,	238,434	523	5	....	....	1	6	11.47	25.16	123	....	....	....	....	....	6	646	9.29	25.16
Northwest Coal Company,	210,322	268	1	....	....	....	1	3.73	4.75	89	2	....	....	....	2	3	357	8.40	14.26
East Boston Coal Company,	208,644	320	2	....	....	1	3	9.37	14.38	153	....	....	....	....	....	3	473	6.34	14.38
Shipman Koal Company,	195,026	272	1	....	....	....	1	3.68	5.13	159	....	....	....	....	....	1	431	2.32	5.13
Enterprise Coal Company,	194,524	326	....	....	....	1	1	3.07	5.14	162	....	....	....	1	1	2	488	4.10	10.28
Northern Anthracite Coal Company,	190,174	193	....	1	....	....	1	5.18	5.26	101	....	1	....	....	1	2	294	6.80	10.52
Thorne Neale Washery Company,	169,340	......	....	....	....	....	....	....	......	50	....	1	....	....	1	1	50	20.00	5.91
J. S. Wentz and Company,	159,331	150	1	....	....	....	1	6.67	6.28	123	....	....	....	....	....	1	273	3.66	6.28
People's Coal Co.,	155,240	323	....	....	2	....	2	6.19	12.88	100	....	....	....	....	....	2	423	4.73	12.88
Raub Coal Company,	144,482	281	1	2	....	....	3	10.68	20.76	135	....	....	....	....	....	3	416	7.21	20.76
Buck Ridge Coal Mining Company,	129,099	275	....	....	1	1	2	7.27	15.49	69	....	....	....	....	....	2	344	5.81	15.49
Archbald Coal Company,	128,302	230	1	1	....	....	2	8.70	15.59	80	....	....	....	....	....	2	310	6.45	15.59
Dolph Coal Company, Limited,	126,800	299	1	1	....	....	2	6.69	15.77	145	....	....	....	....	....	2	444	4.50	15.77
Trevorton Colliery Company,	125,621	274	....	....	....	....	....	....	......	66	1	....	....	....	1	1	340	2.94	7.96
George F. Lee Coal Company,	125,334	187	....	....	....	1	1	5.35	7.98	63	....	....	....	....	....	1	250	4.00	7.98
Traders Coal Company,	117,049	282	2	....	....	....	2	7.09	17.09	69	....	....	....	....	....	2	351	5.70	17.09
Darkwater Coal Company,	116,479	113	....	....	....	....	....	....	......	90	....	....	....	1	1	1	203	4.93	8.59
M. S. Kemmerer and Company,	110,803	143	1	....	....	....	1	6.99	9.03	101	....	....	....	....	....	1	244	4.10	9.03
Hazle Mountain Coal Company,	108,851	160	1	....	....	....	1	6.25	9.19	85	....	....	....	....	....	1	245	4.08	9.19
Rissinger Brothers and Company, Incorporated,	104,592	171	2	1	....	1	4	23.39	38.24	78	....	....	....	....	....	4	249	16.06	23.39
Spencer Coal Company,	93,699	134	....	....	....	....	....	....	......	73	....	1	....	....	1	1	207	4.83	10.67
Humbert Coal Company,	86,809	152	1	....	....	....	1	5.58	11.52	76	....	....	....	....	....	1	228	4.39	11.52
Wilkes-Barre Colliery Company,	68,678	124	1	....	....	....	1	8.06	14.56	39	....	....	....	....	....	1	163	6.13	14.56
E. S. Stackhouse Coal Company,	52,742	124	1	....	....	....	1	8.06	18.96	48	....	1	....	....	1	2	172	11.63	37.92
McCauley Coal Company,	51,929	31	1	....	....	....	1	32.25	19.26	16	....	....	....	....	....	1	47	21.28	19.26
East Lehigh Coal Company,	50,027	76	2	....	....	1	3	39.47	59.97	60	....	....	....	....	....	3	136	22.06	59.97
Port Carbon Coal Company,	45,889	66	1	....	....	....	1	15.15	21.79	25	....	....	....	....	....	1	91	10.99	21.79
Clearview Coal Company,	45,586	72	1	....	....	1	2	27.78	43.87	27	....	....	....	....	....	2	99	20.20	43.87
Pittston Coal Mining Company,	37,276	142	1	....	....	....	1	7.04	26.83	51	....	....	....	....	....	1	193	5.18	26.83
Alliance Coal Company,	36,030	218	....	....	....	4	4	18.35	111.02	92	....	1	....	....	1	5	310	16.13	138.77
Evans Colliery Company,	34,138	63	2	....	....	....	2	31.74	58.59	31	....	....	....	....	....	2	94	21.28	58.59
Oxford Coal Company,	22,792	......	....	....	....	....	....	....	......	76	1	....	....	....	1	1	76	13.16	43.88
West Mountain Coal Company,	22,412	45	1	....	....	....	1	22.22	44.62	15	....	....	....	....	....	1	60	16.67	44.62
Wolf Coal Company,	7,286	9	....	1	....	1	2	222.22	274.49	4	....	....	....	....	....	2	13	153.84	274.49
Locust Mountain Coal Company,	2,800	60	....	....	....	....	....	....	......	390	....	....	....	1	1	1	450	2.22	357.14
Sacandaga Coal Company,	1,803	18	1	....	....	....	1	55.56	554.63	14	....	....	....	....	....	1	32	31.25	554.63

Table showing number of employes inside between 16 and 21 years, and number of employes outside between 14 and 21 years, 1913, inclusive

Districts	Inside Employes			Outside Employes			Grand total
	Between 16 and 21 years	Over 21 years	Total	Between 14 and 21 years	Over 21 years	Total	
First,	198	6,159	6,357	225	1,831	2,056	8,413
Second,	582	6,900	7,482	446	1,183	1,629	9,111
Third,	558	5,364	5,922	389	1,315	1,704	7,626
Fourth,	343	6,457	6,800	459	1,187	1,646	8,446
Fifth,	356	4,857	5,213	508	1,070	1,578	6,791
Sixth,	648	8,619	9,267	607	2,234	2,841	12,108
Seventh,	688	7,788	8,476	416	1,959	2,375	10,851
Eighth,	525	5,859	6,384	423	1,648	2,071	8,455
Ninth,	459	7,268	7,727	350	1,942	2,292	10,019
Tenth,	713	6,939	7,652	791	1,564	2,355	10,007
Eleventh,	463	6,969	7,432	750	2,920	3,670	11,102
Twelfth,	486	4,420	4,906	810	1,293	2,103	7,009
Thirteenth,	362	3,802	4,164	781	1,934	2,715	6,879
Fourteenth,	369	3,797	4,166	601	1,884	2,485	6,651
Fifteenth,	720	4,515	5,235	477	1,422	1,899	7,134
Sixteenth,	435	4,657	5,092	658	1,489	2,147	7,239
Seventeenth,	730	5,983	6,713	408	2,567	2,975	9,688
Eighteenth,	252	4,338	4,590	506	1,415	1,921	6,511
Nineteenth,	149	5,080	5,229	356	2,240	2,596	7,825
Twentieth,	515	4,004	4,519	423	1,103	1,526	6,045
Twenty-first,	314	5,027	5,341	528	1,531	2,059	7,400
Totals,	9,865	118,802	128,667	10,912	35,731	46,643	175,310

TABLE 1.—Number of minor children killed inside and outside the mines, 1913

Districts	Inside						Outside								Grand totals inside and outside
	Boys 20 years	Boys 19 years	Boys 18 years	Boys 17 years	Boys 16 years	Totals	Boys 20 years	Boys 19 years	Boys 18 years	Boys 17 years	Boys 16 years	Boys 15 years	Boys 14 years	Totals	
First,	1	1	2	....	1	5	....	....	....	1	....	....	....	1	6
Second,	1	2	....	....	1	4	....	....	....	....	....	....	....	....	4
Third,	....	....	1	1	....	2	....	....	....	....	....	....	....	....	2
Fourth,	....	....	....	....	....	....	....	....	....	....	....	....	1	1	1
Fifth,	1	....	....	1	....	2	....	....	....	....	....	....	....	....	2
Sixth,	1	....	....	....	....	1	....	....	....	....	....	....	....	....	1
Seventh,	1	....	....	1	....	2	....	1	....	....	....	....	....	1	3
Eighth,	1	2	3	1	....	7	....	....	....	....	....	....	....	....	7
Ninth,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Tenth,	1	....	1	1	....	3	1	....	....	....	....	....	....	1	4
Eleventh,	1	....	....	....	....	1	....	....	....	....	....	....	....	....	1
Twelfth,	....	2	....	....	....	2	....	2	1	....	....	....	....	3	5
Thirteenth,	1	....	2	....	....	3	....	....	....	....	....	1	....	1	4
Fourteenth,	....	2	....	....	....	2	....	....	2	....	....	....	....	2	4
Fifteenth,	....	....	1	1	....	2	....	....	....	1	....	....	....	1	3
Sixteenth,	....	....	1	....	....	1	....	1	....	....	....	....	....	1	2
Seventeenth,	....	1	2	....	....	3	....	....	....	....	....	....	....	....	3
Eighteenth,	....	2	....	....	....	2	....	....	....	....	....	....	....	....	2
Nineteenth,	....	....	....	....	....	....	....	....	....	....	....	....	1	1	1
Twentieth,	1	....	....	....	....	1	....	....	....	....	1	....	....	1	2
Twenty-first,	....	1	2	....	....	3	1	....	1	....	1	....	....	3	6
Totals,	10	13	15	6	2	46	2	4	4	2	2	1	2	17	63

TABLE 2.—Fatal accidents inside the mines, production, employes, fatalities per 1,000 employes, production per fatality, fatalities per 1,000,000 tons produced, by counties, 1913

Counties	Fatal Accidents Inside					Production in tons of 2,000 pounds	Employes inside	Lives lost inside per 1,000 employes	Tons of coal produced per life lost inside	Lives lost inside per 1,000,000 tons produced
	By falls	By cars	By explosions of gas	By miscellaneous causes	Totals					
Luzerne, ...	107	34	10	60	211	36,326,287	47,943	4.40	172,162	5.81
Lackawanna, ...	83	22	4	31	140	21,836,671	34,285	4.08	155,976	6.41
Schuylkill, ...	43	17	29	45	134	19,511,483	26,768	5.01	145,608	6.87
Northumberland,	20	8	2	15	45	7,012,687	10,836	4.15	155,837	6.42
Totals, ...	253	81	45	151	530	84,687,128	119,832	4.42	159,787	6.26
Carbon, ...	5	1	3	6	15	3,353,277	3,930	3.82	223,552	4.47
Columbia, ...	......	1	......	3	4	1,214,648	1,393	2.87	303,662	3.29
Dauphin, ...	2	2	......	1	5	1,060,270	1,687	2.96	212,054	4.72
Sullivan, ...	......	1	......	......	1	664,063	706	1.42	664,063	1.51
Susquehanna, ...	1	......	......	1	2	594,764	1,096	1.82	297,382	3.36
Wayne, ...	......	......	......	......	......	52,814	23	....	....	....
Totals, ...	8	5	3	11	27	6,939,836	8,835	3.06	257,031	3.88
Grand totals and averages, ...	261	86	48	162	557	91,626,964	128,667	4.33	164,501	6.08

TABLE 3.—Nationality by birth of employes killed by falls, 1913

Nationality	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth	Nineteenth	Twentieth	Twenty-first	Totals	Percentages
American,	1	2	1	1	1	4	....	3	1	1	1	2	1	....	4	1	1	1	1	4	....	31	11.88
English,	....	1	....	....	....	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	3	1.15
Welsh,	....	2	....	1	1	....	....	....	3	1	....	....	....	....	....	1	....	1	....	....	....	10	3.83
Irish,	....	3	....	3	1	2	....	1	....	....	....	....	....	....	1	....	....	....	....	....	1	12	4.60
German,	2	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	4	1.53
Polish,	4	9	....	3	3	6	9	5	6	8	4	2	2	....	2	3	1	1	....	....	5	73	27.97
Hungarian,	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	.38
Italian,	8	....	2	....	3	5	....	3	1	....	1	....	....	....	....	1	1	....	1	....	....	26	9.96
Slavonian,	1	....	2	....	....	1	1	3	2	2	4	....	....	1	....	....	2	....	1	1	....	21	8.05
Lithuanian,	....	9	....	1	1	3	1	3	5	2	1	6	5	1	1	1	....	6	3	....	....	49	18.77
Austrian,	2	....	....	....	....	....	2	....	....	....	1	....	1	....	1	....	....	....	....	....	1	8	3.07
Russian,	1	2	....	....	1	1	3	1	....	2	....	1	....	....	....	3	....	1	....	....	1	17	6.51
Greek,	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	2	.77
Tyrolean,	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	.38
Swedish,	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	2	.77
Horwat,	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	.38
Totals,	19	28	7	10	11	23	16	21	19	17	12	11	10	2	9	10	6	10	7	5	8	261	100.00

TABLE 4.—Nationality by birth of employes killed by falls, 1913

Districts	Foreigners									Totals	Americans*						Totals	Grand totals
	By falls at or near face	By falls while taking out pillars	By falls on gangway while timbering and repairing	By falls on gangway while riding on cars	By falls on tunnel going out of mine	By falls near foot of slope	By falls in heading	By falls in airway	By falls on slope		By falls at or near face	By falls while taking out pillars	By falls on gangway while timbering and repairing	By falls on gangway while riding on cars	By falls in heading	By falls in airway		
First,	9	6	......	......	......	......	1	......	......	16	3	......	......	......	......	......	3	19
Second,	20	......	......	......	......	......	......	......	......	20	8	......	......	......	......	......	8	28
Third,	6	......	......	......	......	......	......	......	......	6	1	......	......	......	......	......	1	7
Fourth,	5	......	......	......	......	......	......	......	......	5	4	......	1	......	......	......	5	10
Fifth,	7	1	......	......	......	......	......	......	......	8	3	......	......	......	......	......	3	11
Sixth,	13	2	......	......	......	1	......	......	......	16	3	4	......	......	......	......	7	23
Seventh,	14	2	......	......	......	......	......	......	......	16	......	......	......	......	......	......	......	16
Eighth,	14	1	1	......	......	......	......	......	......	16	4	......	......	1	......	......	5	21
Ninth,	12	......	1	......	......	......	......	1	......	14	3	......	1	......	......	1	5	19
Tenth,	6	5	......	1	1	......	1	......	......	14	3	......	......	......	......	......	3	17
Eleventh,	6	2	2	......	......	......	......	......	1	11	......	......	1	......	......	......	1	12
Twelfth,	9	......	......	......	......	......	......	......	......	9	2	......	......	......	......	......	2	11
Thirteenth,	7	......	2	......	......	......	......	......	......	9	......	......	......	1	......	......	1	10
Fourteenth,	1	1	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	2
Fifteenth,	3	1	......	......	......	......	......	......	......	4	2	1	1	1	......	......	5	9
Sixteenth,	7	1	......	......	......	......	......	......	......	8	......	......	1	1	......	......	2	10
Seventeenth,	4	1	......	......	......	......	......	......	......	5	1	......	......	......	......	......	1	6
Eighteenth,	6	1	......	......	......	......	1	......	......	8	......	1	1	......	......	......	2	10
Nineteenth,	3	2	1	......	......	......	......	......	......	6	1	......	......	......	......	......	1	7
Twentieth,	1	......	......	....	......	......	......	......	......	1	1	......	1	1	1	......	4	5
Twenty-first,	5	1	......	....	......	......	......	......	1	7	......	1	......	......	....	......	1	8
Totals,	158	27	7	1	1	1	3	1	2	201	39	7	7	5	1	1	60	261

*English speaking employes including Americans, English, Scotch, Irish, Welsh and Germans.

TABLE 5—Fatal accidents, production, employes, fatalities inside per 1,000 employes, fatalities inside per 1,000,000 tons produced, by counties and districts, 1913

Counties and Districts	Employes inside	Production	Falls	Cars	Gas	Explosives	Blasts	Electricity	Falling into shafts, slopes, etc.	Machinery	Miscellaneous causes	Total fatal accidents inside	Fatalities inside per 1,000 employes	Fatalities inside per 1,000,000 tons produced	Employes outside	Fatal accidents outside	Total fatal accidents	Total employes	Fatalities inside and outside per 1,000 employes
Luzerne, Lackawanna, Susquehanna, Wayne and Sullivan:—																			
First,	6,357	4,258,213	19	2	....	....	3	....	....	......	2	26	4.09	6.11	2,056	2	28	8,413	3.33
Second,	7,482	4,203,200	28	7	....	2	4	....	4	......	......	45	6.01	10.71	1,629	1	46	9,111	5.48
Third,	5,922	3,673,360	7	7	2	....	5	....	....	......	......	21	3.55	5.72	1,704	1	22	7,626	2.88
Fourth,	6,800	4,584,804	10	3	2	1	3	....	....	......	1	20	2.94	4.36	1,646	5	25	8,446	2.96
Fifth,	5,213	3,647,850	11	4	....	3	1	....	....	......	1	20	3.84	5.48	1,578	......	20	6,791	2.95
Sixth,	9,267	6,194,368	23	2	1	1	8	....	....	......	......	35	3.78	5.65	2,841	1	36	12,108	2.97
Seventh,	8,476	6,681,031	16	7	4	1	6	....	3	1	4	42	4.96	6.29	2,375	5	47	10,851	4.33
Eighth,	6,384	4,494,170	21	12	....	1	9	....	1	......	2	46	7.21	10.24	2,071	1	47	8,455	5.56
Ninth,	7,727	5,991,102	19	....	2	....	5	....	1	1	5	33	4.27	5.51	2,292	3	36	10,019	3.59
Tenth,	7,652	5,652,007	17	5	3	....	1	....	....	......	4	30	3.92	5.31	2,355	2	32	10,007	3.20
Eleventh,	7,432	6,580,862	12	5	....	....	2	....	....	......	1	20	2.69	3.04	3,670	3	23	11,102	2.07
Twenty-first,	5,341	3,523,365	8	3	....	....	3	....	....	......	2	16	3.00	4.54	2,059	6	22	7,400	2.97
Totals and averages,	84,053	59,484,332	191	57	14	9	50	....	9	2	22	354	4.21	5.95	26,276	30	384	110,329	3.48
Carbon, Schuylkill, Columbia, Northumberland and Dauphin:—																			
Twelfth,	4,906	3,553,473	11	5	3	....	....	....	....	......	4	23	4.69	6.47	2,103	7	30	7,009	4.28
Thirteenth,	4,164	3,035,110	10	4	....	....	3	....	5	......	4	26	6.24	8.57	2,715	3	29	6,879	4.22
Fourteenth,	4,166	3,729,318	2	2	....	....	1	....	3	......	5	13	3.12	3.49	2,485	3	16	6,651	2.41
Fifteenth,	5,235	3,236,254	9	5	1	1	1	....	....	......	5	22	4.20	6.80	1,899	3	25	7,134	3.50
Sixteenth,	5,092	3,402,634	10	3	1	1	2	....	1	......	1	19	3.73	5.58	2,147	3	22	7,239	3.04
Seventeenth,	6,713	5,491,202	6	3	4	....	....	1	5	......	7	26	3.87	4.73	2,975	7	33	9,688	3.41
Eighteenth,	4,590	3,325,093	10	4	....	....	4	....	4	......	4	26	5.66	7.82	1,921	5	31	6,511	4.76
Nineteenth,	5,229	3,662,604	7	1	3	....	1	....	....	......	3	15	2.87	4.09	2,596	3	18	7,825	2.30
Twentieth,	4,519	2,706,944	5	2	22	....	....	....	3	......	1	33	7.30	12.19	1,526	3	36	6,045	5.96
Totals and averages,	44,614	32,142,632	70	29	34	2	12	1	21	......	34	203	4.55	6.31	20,367	37	240	64,981	3.69
Grand totals and averages,	128,667	91,626,964	261	86	48	11	62	1	30	2	56	557	4.33	6.08	46,643	67	624	175,310	3.56

TABLE 6.—Fatal accidents, production, employes, fatalities inside per 1,000 employes, fatalities inside per 1,000,000 tons produced, by years, 1899—1913, inclusive

Years	Employes inside	Production net tons	Falls	Cars	Gas	Explosives	Blasts	Electricity	Falling into shafts and slopes, etc.	Machinery	Miscellaneous causes	Total fatal accidents inside	Fatalities inside per 1,000 employes	Fatalities inside per 1,000,000 tons produced	Employes outside	Fatal accidents outside	Total fatal accidents	Total employes	Fatalities inside and outside per 1,000 employes
1899,	92,167	60,518,331	226	51	28	11	27	......	16	....	30	389	4.22	6.43	48,437	72	461	140,604	3.28
1900,	94,140	57,363,396	175	60	38	14	29	......	19	....	23	358	3.80	6.24	49,684	53	411	143,824	2.86
1901,	98,434	67,094,665	226	69	33	15	36	......	24	....	38	441	4.48	6.57	49,217	72	513	147,651	3.47
1902,	98,377	41,340,935	116	42	20	19	13	......	13	....	22	245	2.49	5.93	49,762	55	300	148,139	2.03
1903,	102,055	75,232,585	210	70	26	17	38	1	31	....	33	426	4.17	5.66	49,772	92	518	151,827	3.41
1904,	110,362	73,594,369	238	71	30	35	34	......	26	....	62	496	4.49	6.74	50,968	99	595	161,330	3.69
1905,	116,371	78,647,020	295	82	33	16	44	2	43	....	36	551	4.73	7.01	51,883	93	644	168,254	3.83
1906,	114,998	72,139,510	214	67	43	28	53	......	20	2	29	456	3.97	6.32	51,177	101	557	166,175	3.35
1907,	117,849	86,056,412	279	88	44	17	70	3	25	2	73	601	5.10	6.98	50,925	107	708	168,774	4.20
1908,	124,233	83,543,243	284	90	57	23	69	1	22	1	49	596	4.79	7.13	50,270	82	678	174,503	3.88
1909,	123,272	80,223,833	254	71	28	22	47	6	18	1	43	490	3.98	6.11	47,923	77	567	171,195	3.31
1910,	121,542	83,683,994	253	92	20	22	60	3	19	2	38	509	4.19	6.08	46,633	92	601	168,175	3.57
1911,	126,037	90,917,176	253	92	34	21	67	2	21	4	121	615	4.88	6.76	47,301	84	699	173,338	4.03
1912,	127,807	84,426,869	246	78	35	25	51	5	18	....	40	498	3.90	5.90	47,291	103	601	175,098	3.43
1913,	128,667	91,626,964	261	86	48	11	62	1	30	2	56	557	4.33	6.08	46,643	67	624	175,310	3.56
Totals and averages,	1,696,311	1,126,409,302	3,530	1,109	517	296	700	24	345	14	693	7,228	4.26	6.42	737,886	1,249	8,477	2,434,197	3.48

TABLE 7.—Mines in operation, production, inside employes, fatal accidents inside, production per fatality inside, fatalities inside per 1,000,000 tons produced, by districts, 1913

Districts	Mines in operation	Production in tons of 2,000 pounds	Inside employes	Outside employes	Total number of employes	Fatalities inside	Fatalities outside	Fatalities inside per 1,000 employes	Production per fatality inside	Fatalities inside per 1,000,000 tons produced	Fatalities inside and outside per 1,000 employes
First,	27	4,258,213	6,357	2,056	8,413	26	2	4.09	163,777	6.11	3.33
Second,	26	4,203,200	7,482	1,629	9,111	45	1	6.01	93,404	10.71	5.48
Third,	23	3,673,360	5,922	1,704	7,626	21	1	3.55	174,922	5.72	2.88
Fourth,	34	4,584,804	6,800	1,646	8,446	20	5	2.94	229,240	4.36	2.96
Fifth,	31	3,647,850	5,213	1,578	6,791	20	....	3.84	182,392	5.48	2.95
Sixth,	41	6,194,368	9,267	2,841	12,108	35	1	3.78	176,982	5.65	2.97
Seventh,	48	6,681,031	8,476	2,375	10,851	42	5	4.96	159,072	6.29	4.33
Eighth,	27	4,494,170	6,384	2,071	8,455	46	1	7.21	97,699	10.24	5.56
Ninth,	43	5,991,102	7,727	2,292	10,019	33	3	4.27	181,649	5.51	3.59
Tenth,	50	5,652,007	7,652	2,355	10,007	30	2	3.92	188,400	5.31	3.20
Eleventh,	78	6,580,862	7,432	3,670	11,102	20	3	2.69	329,043	3.04	2.07
Twelfth,	16	3,553,473	4,906	2,103	7,009	23	7	4.69	154,499	6.47	4.28
Thirteenth,	29	3,035,110	4,164	2,715	6,879	26	3	6.24	116,735	8.57	4.22
Fourteenth,	37	3,729,318	4,166	2,485	6,651	13	3	3.12	286,871	3.49	2.41
Fifteenth,	24	3,236,254	5,235	1,899	7,134	22	3	4.20	147,102	6.80	3.50
Sixteenth,	42	3,402,634	5,092	2,147	7,239	19	3	3.73	179,086	5.58	3.04
Seventeenth,	39	5,491,202	6,713	2,975	9,688	26	7	3.87	211,200	4.73	3.41
Eighteenth,	45	3,325,093	4,590	1,921	6,511	26	5	5.66	127,888	7.82	4.76
Nineteenth,	51	3,662,604	5,229	2,596	7,825	15	3	2.87	244,174	4.09	2.30
Twentieth,	24	2,706,944	4,519	1,526	6,045	33	3	7.30	82,026	12.19	5.96
Twenty-first,	34	3,523,365	5,341	2,059	7,400	16	6	3.00	220,210	4.54	2.97
Totals and averages,	769	91,626,964	128,667	46,643	175,310	557	67	4.33	164,501	6.08	3.56

TABLE 8.—Fatal accidents inside the mines and production per accident, by counties, 1899-1913, inclusive

Years	Counties	Number of mines	Number of inside employes	Production in tons of 2,000 pounds	Fatal accidents by falls	Fatal accidents by explosions of gas	Total fatal accidents inside	Production in tons per fatal accident inside	Lives lost per 1,000,000 tons produced
1899	Luzerne,	156	33,078	22,287,712	98	16	144	154,776	6.46
1900		152	34,476	21,481,122	57	17	135	159,119	6.28
1901		148	36,019	23,963,869	95	22	182	131,670	7.59
1902		229	35,491	14,577,949	36	7	93	156,752	6.38
1903		233	38,370	27,878,362	75	15	169	164,961	6.06
1904		256	41,603	27,705,288	106	8	200	138,526	7.22
1905		254	43,109	29,992,636	122	14	215	139,501	7.17
1906		271	41,643	26,612,192	84	27	194	137,176	7.29
1907		243	42,022	30,853,087	105	19	223	138,355	7.23
1908		243	46,302	31,728,997	116	34	258	122,981	8.13
1909		241	45,121	30,992,306	112	16	202	153,427	6.52
1910		250	44,383	32,106,979	96	12	215	149,335	6.70
1911		281	46,863	35,061,582	92	18	205	171,032	5.85
1912		311	47,133	32,643,232	83	24	202	161,600	6.19
1913		298	47,943	36,326,287	107	10	211	172,162	5.81
	Totals and averages, ...	......	605,556	424,211,600	1,384	259	2,848	148,951	6.71
1899	Lackawanna,	76	22,314	14,838,821	71	2	108	137,397	7.28
1900		83	23,907	13,755,961	55	8	89	154,561	6.47
1901		80	26,207	17,258,125	63	4	109	158,331	6.31
1902		118	25,931	11,851,169	23	......	43	275,609	3.63
1903		114	27,755	20,046,133	59	3	107	187,347	5.34
1904		115	30,500	19,007,628	62	7	115	165,284	6.05
1905		126	30,853	19,709,164	82	2	127	155,190	6.44
1906		157	31,196	18,840,561	70	4	112	168,219	5.94
1907		155	32,444	22,433,409	87	16	174	128,928	7.75
1908		162	32,296	21,631,995	80	3	141	153,418	6.52
1909		157	33,764	20,489,212	73	1	129	158,831	6.29
1910		157	33,285	21,182,921	87	3	139	152,395	6.56
1911		151	34,069	22,598,414	78	3	218	103,662	9.65
1912		153	34,074	20,617,308	79	4	127	162,341	6.16
1913		156	34,285	21,836,671	83	4	140	155,976	6.41
	Totals and averages, ..	......	452,780	286,097,492	1,052	64	1,878	152,342	6.56
1899	Schuylkill,	83	20,474	13,694,171	43	8	90	152,157	6.57
1900		82	19,952	12,998,899	32	11	82	158,523	6.31
1901		76	20,415	15,277,658	39	6	93	164,276	6.09
1902		76	20,876	8,622,103	37	3	60	143,702	6.96
1903		76	20,144	16,389,505	44	6	88	186,244	5.37
1904		106	22,272	16,173,158	43	8	107	151,151	6.62
1905		132	25,716	17,975,160	60	11	136	132,170	7.57
1906		153	25,365	16,376,538	32	7	94	174,218	5.74
1907		140	25,181	20,160,970	48	2	123	163,910	6.10
1908		179	26,625	18,196,714	54	[illegible]	121	150,386	6.65
1909		178	25,749	16,794,597	37	7	88	190,848	5.24
1910		188	25,302	17,696,013	41	4	94	188,255	5.31
1911		185	26,015	19,234,447	53	6	118	163,004	6.13
1912		213	26,619	17,986,745	55	5	109	165,016	6.06
1913		191	26,768	19,511,483	43	29	134	145,608	6.87
	Totals and averages, ..	......	357,473	247,088,161	662	131	1,537	160,760	6.22
1899	Northumberland,	28	9,739	4,860,292	19	2	23	211,317	4.73
1900		27	9,741	4,690,944	15	1	33	142,150	7.03
1901		27	9,867	5,430,991	21	1	36	150,861	6.63
1902		28	9,670	3,162,066	10	10	34	93,002	10.75
1903		26	9,312	5,518,580	21	2	35	157,674	6.31
1904		52	9,248	5,516,647	15	6	39	141,452	7.07
1905		54	9,823	5,483,181	21	5	42	130,552	7.66
1906		70	9,585	5,367,497	17	3	32	167,734	5.96
1907		60	10,653	6,665,392	23	5	45	148,120	6.75
1908		68	10,639	6,067,741	23	3	49	123,831	8.08
1909		67	10,361	5,987,835	25	3	46	130,170	7.68
1910		73	10,665	6,324,317	17	......	32	197,635	5.06
1911		75	10,772	7,109,372	16	5	39	182,292	5.49
1912		75	11,002	6,851,491	22	1	36	190,319	5.25
1913		70	10,836	7,012,687	20	2	45	155,837	6.42
	Totals and averages, ..	......	151,913	86,049,033	285	49	566	152,030	6.58

4—22—1914

TABLE 8.—Continued

Years	Counties	Number of mines	Number of inside employes	Production in tons of 2,000 pounds	Fatal accidents by falls	Fatal accidents by explosions of gas	Total fatal accidents inside	Production in tons per fatal accident inside	Lives lost per 1,000,000 tons produced
1899	Carbon, ...	11	2,025	1,826,267	2	......	10	182,627	5.48
1900		11	2,052	1,863,637	1	......	3	621,212	1.61
1901		10	2,265	1,858,519	3	......	10	185,852	5.38
1902		10	2,242	1,104,462	1	......	4	276,116	3.62
1903		15	2,120	2,150,021	2	......	13	165,386	6.05
1904		20	2,381	2,253,512	2	......	7	321,930	2.11
1905		23	2,460	2,476,406	......	......	9	275,156	3.63
1906		23	2,740	2,240,823	2	1	6	374,470	2.67
1907		30	2,989	2,762,523	3	1	14	197,323	5.07
1908		22	3,531	2,784,946	4	......	9	309,438	3.23
1909		28	3,492	2,652,997	3	1	16	165,812	6.03
1910		33	3,575	3,214,169	3	1	15	214,274	4.67
1911		31	3,607	3,312,483	6	1	18	184,027	5.43
1912		24	4,083	2,843,876	1	......	8	355,484	2.81
1913		29	3,930	3,353,277	5	3	15	223,552	4.47
	Totals and averages, ..	......	43,492	36,703,918	38	8	157	233,783	4.28
1899	Columbia, ...	6	1,346	1,002,469	2	......	5	200,494	4.99
1900		7	1,163	980,721	3	......	5	196,144	5.10
1901		5	714	1,209,859	2	......	4	302,465	3.31
1902		6	1,438	738,070	......	......	3	246,023	4.06
1903		5	1,454	1,353,904	......	......	3	451,301	2.22
1904		10	1,419	1,151,624	7	......	10	115,162	8.68
1905		9	1,567	1,229,697	2	......	7	175,671	5.69
1906		7	1,403	969,065	3	1	7	138,438	7.22
1907		8	1,468	1,188,268	1	......	4	297,067	3.37
1908		9	1,559	1,182,326	2	......	5	236,465	4.22
1909		8	1,568	1,093,103	1	......	2	546,551	1.83
1910		11	1,176	960,145	1	......	1	960,145	1.04
1911		7	1,473	1,193,736	1	......	1	193,736	.84
1912		11	1,440	1,214,527	3	......	6	202,421	4.94
1913		11	1,393	1,214,648	......	......	4	303,662	3.29
	Totals and averages, ..	......	20,581	16,682,162	28	1	67	248,987	4.02
1899	Dauphin, ...	2	1,583	817,328	1	......	8	102,166	9.79
1900		2	1,608	779,135	2	1	8	97,392	10.27
1901		2	1,562	830,572	3	......	7	118,653	8.43
1902		2	1,120	423,341	......	......	1	423,341	2.36
1903		2	1,256	732,970	3	......	5	146,594	6.82
1904		9	1,269	723,414	......	1	*11	65,765	15.21
1905		10	1,350	723,126	1	1	5	144,625	6.91
1906		10	1,422	734,723	3	......	3	244,908	4.08
1907		12	1,393	829,980	2	......	5	165,996	6.02
1908		12	1,481	848,005	1	......	9	94,223	10.61
1909		12	1,419	932,393	1	......	2	416,197	2.15
1910		11	1,446	886,192	1	......	8	110,774	9.03
1911		11	1,530	946,963	4	1	10	94,696	10.56
1912		10	1,606	945,102	......	1	3	315,034	3.17
1913		13	1,687	1,060,270	2	......	5	212,054	4.72
	Totals and averages, ..	......	21,732	12,213,514	24	5	90	135,706	7.37
1899	Susquehanna, ...	2	941	699,020	......	......	......	....	......
1900		2	904	556,003	......	......	......	....	......
1901		2	1,104	743,105	......	......	......	....	......
1902		2	1,086	452,758	2	......	2	226,378	4.42
1903		2	1,064	800,773	4	......	6	133,462	7.49
1904		2	1,102	692,440	2	......	6	115,407	8.67
1905		2	1,026	680,146	6	......	6	113,358	8.82
1906		3	1,028	562,103	2	......	6	93,684	10.67
1907		3	970	644,088	4	......	12	53,674	18.63
1908		1	1,005	487,900	2	......	2	243,950	4.10
1909		2	953	589,835	2	......	3	196,612	5.09
1910		2	971	628,808	4	......	4	157,202	6.36
1911		3	962	672.600	......	......	1	672,600	1.49
1912		3	1,044	582,510	3	......	7	83,216	12.02
1913		3	1,096	594,764	1	......	2	297,382	3.36
	Totals and averages, ..	......	15,256	9,386,853	32	......	57	164,682	6.07

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*Williamstown disaster.

TABLE 8.—Continued

Years	Counties	Number of mines	Number of inside employes	Production in tons of 2,000 pounds	Fatal accidents by falls	Fatal accidents by explosions of gas	Total fatal accidents inside	Production in tons per fatal accident inside	Lives lost per 1,000,000 tons produced
1899	Sullivan, ...	2	322	183,182	1	......	1	183,182	5.46
1900		2	337	235,112	3	......	3	78,371	12.76
1901		2	281	152,505	......	......	......	....	......
1902		3	523	409,017	3	......	5	81,803	12.23
1903		3	455	293,442	2	......	2	146,721	6.82
1904		3	443	294,305	1	......	1	294,305	3.40
1905		4	331	310,496	1	......	2	155,248	6.41
1906		4	414	358,627	1	......	2	179,313	5.58
1907		4	459	433,101	1	......	1	433,101	2.31
1908		4	583	550,712	2	......	2	275,356	3.63
1909		4	661	641,216	2	......	2	320,608	3.12
1910		4	614	632,874	......	......	1	632,874	1.58
1911		4	662	717,429	2	......	4	179,357	5.60
1912		4	677	649,235	......	......	......	....	......
1913		4	706	664,063	......	......	1	664,063	1.51
	Totals and averages, ..	......	7,468	6,505,316	19	......	27	240,938	4.15
1899	Wayne, ...	1	353	309,069	......	......	......	....	......
1900		1	11	21,862	......	......	......	....	......
1901		1	589	369,462	......	......	......	....	......
1902		......	....	....	......	......	......	....	......
1903		1	125	68,895	......	......	......	....	......
1904		1	125	71,353	......	......	......	....	......
1905		1	136	67,008	......	......	......	....	......
1906		3	202	71,381	......	......	......	....	......
1907		3	270	85,594	......	......	......	....	......
1908		2	212	63,906	......	......	......	....	......
1909		2	184	50,339	......	......	......	....	......
1910		2	125	51,576	......	......	......	....	......
1911		2	84	70,150	1	......	1	70,150	14.26
1912		2	129	92,843	......	......	......	....	......
1913		1	23	52,814	......	......	......	....	......
	Totals and averages, ..	......	2,568	1,446,252	1	......	1	1,446,252	.69

TABLE 9.—Miners and miners' laborers employed in the mines; number of fatal accidents per 1,000 employes; average number of days worked by breakers; average production per day, 1881-1913, inclusive

Years	Number of miners employed	Number of miners killed	Number of miners killed per 1,000 employed	Number of miners' laborers employed	Number of miners' laborers killed	Number of miners' laborers killed per 1,000 employed	Average number of days worked by breakers	Average production per day worked by breakers, net tons
1881,	22,809	114	4.99	16,726	70	4.19	221	154,763
1882,	22,843	135	5.91	15,229	56	3.68	218	160,814
1883,	25,319	136	5.37	16,879	67	3.97	232	162,704
1884,	27,100	132	4.87	19,606	81	4.13	192	189,941
1885,	28,305	160	5.65	20,128	86	4.27	204	187,413
1886,	25,970	131	5.04	17,068	68	3.98	196	198,728
1887,	29,558	102	3.45	17,548	57	3.25	208	202,675
1888,	34,547	169	4.89	21,952	87	3.96	218	213,922
1889,	30,504	194	6.36	19,368	79	4.08	197	221,978
Totals and averages,	246,955	1,273	5.15	164,504	651	3.96	210	188,104
1890,	28,936	146	5.05	18,620	95	5.10	210	214,220
1891,	30,552	180	5.89	19,590	119	6.07	213	233,340
1892,	30,779	180	5.84	22,110	111	5.02	202	253,599
1893,	32,881	195	5.93	22,853	108	4.73	202	261,590
1894.	33,357	218	6.54	23,942	91	3.80	175	291,240
1895,	34,553	179	5.18	24,638	115	4.67	187	304,539
1896,	37,003	204	5.51	26,530	134	5.09	170	316,725
1897,	36,932	210	5.69	27,277	99	3.63	151	348,219
Totals and averages,	264,993	1,512	5.71	185,560	872	4.70	189	277,934
1898,	36,377	176	4.84	24,060	124	5.15	151	349,753
1899,	36,421	199	5.46	23,946	114	4.75	179	338,091
1900,	36,832	184	4.99	24,613	95	3.86	176	325,928
1901,	37,804	224	5.92	26,265	122	4.64	195	344,075
1902,	36,392	114	3.13	25,443	62	2.44	*116	†356,387
1903,	36,823	204	5.49	27,533	110	4.00	211	356,552
1904,	39,848	233	5.85	31,217	145	4.64	213	345,513
1905,	42,078	308	7.32	31,967	148	4.63	208	378,111
1906,	41,801	226	5.41	29,652	133	4.48	206	350,192
1907,	43,035	309	7.18	29,984	136	4.54	229	379,103
1908,	44,340	313	7.05	32,853	154	4.68	211	345,940
1909,	44,675	264	5.91	32,232	126	3.91	205	391,336
1910,	43,651	254	5.82	32,040	147	4.59	212	394,736
1911,	45,324	306	6.75	32,905	176	5.35	234	388,535
1912,	44,696	262	5.86	33,438	117	3.50	220	383,758
1913,	44,346	286	6.45	33,973	148	4.36	242	378,624
Totals and averages,	654,443	3,862	5.90	472,121	2,057	4.35	200	362,915

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*Strike during the year.

†Washeries worked during the strike. The time was not computed in the average days worked.

TABLE 10.—Employes inside and outside the mines, number of fatal accidents per 1,000 employes, production per fatality, 1881-1913, inclusive

Years	Inside				Outside			Number of lives lost inside and outside per 1,000 employes
	Employes	Fatal accidents	Lives lost per 1,000 employes	Production of coal in tons of 2,000 pounds for each life lost	Employes	Fatal accidents	Lives lost per 1,000 employes	
1881,	45,619	234	5.13	146,165	30,412	39	1.28	3.59
1882,	50,764	254	4.92	140,230	31,436	41	1.30	3.54
1883,	56,268	274	4.87	137,764	35,153	49	1.39	3.53
1884,	61,922	286	4.62	127,513	39,151	46	1.17	3.28
1885,	62,901	290	4.61	131,834	37,419	42	1.12	3.31
1886,	63,930	236	3.69	165,046	39,114	43	1.10	2.71
1887,	67,716	270	3.99	156,153	38,801	46	1.19	2.97
1888,	78,688	317	4.03	147,114	43,530	47	1.08	2.98
1889,	74,178	339	4.57	128,763	45,468	58	1.28	3.32
Totals and averages, ..	561,986	2,500	4.45	142,287	340,484	411	1.21	3.23
1890,	73,613	323	4.39	139,276	46,306	55	1.19	3.15
1891,	76,569	372	4.86	133,606	46,339	56	1.20	3.47
1892,	82,088	361	4.40	141,903	48,212	57	1.18	3.21
1893,	86,287	388	4.49	136,188	51,682	68	1.32	3.30
1894,	87,901	368	4.19	138,497	52,038	78	1.50	3.19
1895,	89,251	354	3.97	160,872	54,454	67	1.23	2.93
1896,	94,798	430	4.54	125,217	55,290	72	1.30	3.34
1897,	95,812	372	3.88	141,347	53,745	51	.95	2.83
1898,	91,171	360	3.95	146,674	51,249	51	.99	2.89
1899,	92,167	389	4.22	155,574	48,437	72	1.49	3.28
Totals and averages, ..	869,657	3,717	4.27	141,915	507,752	627	1.23	3.15
1900,	94,140	358	3.80	160,233	49,684	53	1.07	2.86
1901,	98,434	441	4.48	152,142	49,217	72	1.46	3.47
1902,	98,377	245	*2.49	168,739	49,762	55	1.11	2.03
1903,	102,055	426	4.17	176,602	49,772	92	1.85	3.41
1904,	110,362	496	4.49	148,376	50,968	99	1.94	3.69
1905,	116,371	551	4.73	142,735	51,883	93	1.79	3.83
1906,	[illegible]	456	3.97	141,258	51,177	101	1.98	3.35
1907,	117,849	601	5.10	143,189	50,925	107	2.10	4.20
1908,	124,233	596	4.79	140,173	50,270	82	1.63	3.88
1909,	123,272	490	3.98	163,722	47,923	77	1.61	3.31
Totals and averages, ..	100,091	4,660	4.24	153,717	501,581	831	1.66	3.43
1910,	121,542	509	4.19	164,409	46,633	92	1.97	3.57
1911,	126,037	615	4.88	147,833	47,301	84	1.78	4.03
1912,	127,807	498	3.90	169,532	47,291	103	2.18	3.43
1913,	128,667	557	4.33	164,501	46,643	67	1.44	3.56
Totals and averages, ..	504,053	2,179	4.32	138,873	187,868	346	1.84	3.65

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*Year of the big strike, when an average of only 116 days was worked by the collieries.

TABLE 11.—Comparison of production and fatal accidents inside, 1909-1913, inclusive

Names of Companies	1909		1910		1911		1912		1913		Total production in tons of 2,000 pounds	Total number of fatal accidents inside	Number of tons produced per life lost	Fatal accidents per 1,000,000 tons produced
	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside				
Philadelphia and Reading Coal and Iron Co.,	11,256,043	66	11,063,293	61	12,368,179	62	12,354,472	71	12,705,331	88	59,747,318	348	171,688	5.82
Delaware, Lackawanna and Western Railroad Co.,	9,246,954	59	9,426,290	62	9,840,388	56	9,532,400	59	10,288,190	75	48,334,222	311	155,415	6.43
Lehigh Valley Coal Co.,	6,255,528	37	7,436,690	45	9,000,559	44	8,188,891	54	9,056.567	59	39,938,235	239	167,106	5.98
Delaware and Hudson Co.,	6,117,629	25	6,608,516	36	6,746,076	53	5,923,324	34	7,336,094	37	32,731,639	185	176,928	5.65
Pennsylvania Coal Co.,	5,413,452	46	5,618,507	41	6,101,405	38	5,448,795	34	6,040,021	28	28,622,180	187	153,060	6.53
Lehigh and Wilkes-Barre Coal Co.,	4,776,283	29	4,944,809	48	5,524,611	39	5,407,438	36	6,405,808	35	27,058,949	187	144,700	6.91
Lehigh Coal and Navigation Co.,	3,370,889	20	4,148,468	22	4,539,724	22	4,114,818	15	4,843,508	23	21,017,407	102	206,053	4.85
Totals and averages,	46,436,778	282	49,246,573	315	54,120,942	314	50,970,138	303	56,675,519	345	57,449,950	1,559	165,138	6.06
Scranton Coal Co.,	2,628,614	24	2,651,731	18	2,342,864	23	2,196,311	20	2,423,657	21	12,243,177	106	115,502	8.66
Kingston Coal Co.,	2,281,692	15	2,509,038	6	2,481,464	13	2,168,780	14	1,985,275	12	11,426,249	60	190,437	5.24
Mineral Railroad and Mining Co.,	1,770,194	24	1,791,606	12	2,019,648	18	1,991,882	10	2,238,029	13	9,811,359	77	127,420	7.85
Susquehanna Coal Co.,	1,745,593	13	1,803,173	11	1,902,020	10	1,979,162	11	2,247,021	15	9,676,969	60	161,283	6.20
Hudson Coal Co.,	1,410,354	8	1,707,611	8	2,410,880	14	2,266,070	15	1,718,522	6	9,513,437	51	186,538	5.36
Hillside Coal and Iron Co.,	1,483,103	8	1,585,109	8	2,014,960	8	1,627,797	9	1,727,768	10	8,438,737	43	196,250	5.10
Coxe Brothers and Co., Incorporated,	1,154,275	5	1,371,570	7	1,644,965	7	1,515,372	1	1,636,341	3	7,322,523	23	318,371	3.14
G. B. Markle Co.,	1,256,820	8	1,214,764	7	1,364,955	6	1,242,604	6	1,625,468	3	6,704,611	30	223,487	4.47
Totals and averages,	13,730,645	105	14,634,602	77	16,181,756	99	14,987,978	86	15,602,081	83	75,137,062	450	166,971	6.00
Summit Branch Mining Co.,	932,393	2	886,192	8	946,963	10	945,102	3	1,060,270	5	4,770,920	28	170,390	5.87
Price-Pancoast Coal Co.,	785,267	6	800,416	4	761,120	80	655,179	4	713,896	4	3,715,878	98	37,917	26.37
West End Coal Co.,	696,571	5	735,833	7	845,187	3	597,588	8	707,006	......	3,582,185	23	155,747	6.42
Jermyn and Co.,	854,701	6	725,134	8	741,867	7	562,318	2	568.534	......	3.412,554	23	148,372	6.74

Pardee Brothers and Co.,	580,366	3	703,957	1	755,284	......	633,322	3	714,068	......	3,386,997	7	483,857	2.07
A. Pardee and Co.,	613,467	2	578,135	4	684,698	1	584,083	2	656,989	2	3,117,372	11	283,397	3.53
Temple Iron Co.,	1,967,740	15	1,016,297	11	*	......	*	......	*	......	2,984,037	26	114,771	8.71
St. Clair Coal Co.,	477,780	1	495,824	3	439,807	......	431,021	1	378,180	2	2,222,612	7	317,516	3.15
Lytle Coal Co.,	356,122	2	387,819	1	382,783	5	379,050	2	433,524	3	1,939,298	13	149,177	6.70
Forty Fort Coal Co.,	†	......	†	......	724,123	4	591,242	3	620,712	10	1,936,077	17	113,887	8.63
Plymouth Coal Co.,	403,530	4	387,474	4	396,600	1	361,097	3	383,254	3	1,931,955	15	128,797	7.76
Totals and averages,	7,667,937	46	6,717,081	51	6,638,432	111	5,740,002	31	6,236,433	29	32,999,885	268	123,134	8.12
Midvalley Coal Co.,	359,482	1	396,383	......	424,079	1	355,238	2	341,451	......	1,876,633	4	469,158	2.13
C. M. Dodson and Co.,	251,944	2	361,905	......	409,282	4	393,960	1	440,524	2	1,857,615	9	206,402	4.84
Lackawanna Coal Co., Limited,	†	......	549,046	3	540,175	5	368,349	3	384,842	3	1,842,412	14	131,601	7.60
Parrish Coal Co.,	451,012	3	486,878	9	370,087	4	521,964	9	‡	......	1,829,941	25	73,198	13.66
Thomas Colliery Co.,	382,576	1	355,242	1	391,488	5	367,615	1	322,683	1	1,819,604	9	202,178	4.95
Sterrick Creek Coal Co.,	†	......	79,981	......	633,043	3	514,115	4	503,583	3	1,730,722	10	173,072	5.78
Pine Hill Coal Co.,	294,643	1	336,478	......	374,777	1	311,797	2	383,329	2	1,701,024	6	283,504	3.53
Estate A. S. Van Wickle,	368,012	2	354,328	1	348,164	2	284,866	1	318,946	1	1,674,316	7	239,188	4.18
Alden Coal Co.,	310,583	......	325,509	2	328,573	......	298,757	......	337,666	2	1,601,088	4	400,272	2.50
Oak Hill Coal Co.,	270,717	......	286,080	......	363,149	7	293,619	8	308,278	2	1,521,843	17	89,520	11.17
Excelsior Coal Co.,	282,197	......	299,163	1	319,511	3	295,998	2	253,998	2	1,450,867	8	181,358	5.51
Elliott McClure and Co.,	336,984	1	285,149	4	303,159	2	277,153	3	238,434	6	1,440,879	16	90,055	11.10
Maryd Coal Co.,	232,260	......	288,080	1	271,541	2	276,898	......	351,906	......	1,420,685	3	473,562	2.11
Greenough Red Ash Coal Co.,	262,025	......	274,339	3	301,081	1	273,955	1	297,447	4	1,408,847	9	156,539	6.39
Totals and averages,	3,802,435	11	4,678,561	25	5,378,109	40	4,834,284	37	4,483,087	28	23,176,476	141	164,372	6.08
Dodson Coal Co.,	253,015	1	289,865	1	271,333	......	248,285	3	324,637	......	1,387,135	5	277,427	3.60
Mt. Jessup Coal Co.,	188,626	1	248,365	1	302,302	1	269,107	......	344,046	1	1,352,446	4	338,112	2.96
Colonial Collieries Co.,	224,934	3	267,583	2	193,583	......	365,746	2	299,852	2	1,351,498	9	150,166	6.66
Red Ash Coal Co.,	251,934	1	241,834	2	244,688	2	274,202	1	254,270	1	1,266,928	7	180,990	5.53
Harwood Coal Co.,	274,859	1	230,093	......	298,404	1	246,934	......	197,561	......	1,247,851	2	623,926	1.60
Buck Run Coal Co.,	196,847	1	264,904	......	261,315	......	230,573	2	241,704	2	1,195,343	5	239,069	4.18
Mill Creek Coal Co.,	648,645	5	143,894	2	153,253	2	115,325	......	122,465	......	1,183,582	9	131,509	7.60
Mt. Lookout Coal Co.,	†	......	†	......	387,993	7	319,840	3	420,922	5	1,128,755	15	75,250	13.29
Enterprise Coal Co.,	135,996	1	245,184	......	271,797	2	245,737	......	194,524	1	1,093,238	4	273,310	3.66
Moosic Mountain Coal Co.,	150,382	1	190,555	1	229,976	1	225,278	2	281,351	2	1,077,542	7	153,935	6.50
Skipman Koal Co.,	175,803	2	245,720	3	254,913	1	192,026	1	195,026	1	1,063,488	8	132,936	7.52
Northwest Coal Co.,	213,580	1	188,688	1	221,503	1	199,246	......	210,322	1	1,033,339	4	258,335	3.87
Totals and averages,	2,714,621	18	2,556,685	13	3,091,060	18	2,932,099	14	3,086,680	16	14,381,145	79	182,040	5.49
Northern Anthracite Coal Co.,	174,298	2	166,499	1	199,194	3	225,654	......	190,174	1	955,819	7	136,546	7.32
Upper Lehigh Coal Co.,	226,252	......	204,791	2	172,401	......	154,679	......	192,091	......	950,214	2	475,107	2.10
East Boston Coal Co.,	213,200	2	246,558	......	185,665	2	89,536	......	208,644	3	943,603	7	134,800	7.42
Girard Mammoth Coal Co.,	102,545	......	177,349	......	235,010	1	125,178	1	238,287	......	878,369	2	439,185	2.28
Dolph Coal Co., Limited,	193,322	......	191,953	......	186,944	......	142,587	......	126,800	2	841,606	2	420,803	2.38
Peoples Coal Co.,	192,526	5	125,729	2	137,086	2	188,091	2	155,240	2	798,672	13	61,436	16.28
Lentz Coal Co.,	304,499	......	480,202	2	§	......	§	......	§	......	784,701	2	392,350	2.55

*Now Forty Fort Coal Co. and Mt. Lookout Coal Co. †Operated by Temple Iron Co. ‡Now Lehigh and Wilkes-Barre Coal Co. §Operated by Lehigh Valley Coal Co.

TABLE 11.—Continued

Names of Companies	1909		1910		1911		1912		1913		Total production in tons of 2,000 pounds	Total number of fatal accidents inside	Number of tons produced per life lost	Fatal accidents per 1,000,000 tons produced
	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside	Production in tons of 2,000 pounds	Number of fatal accidents inside				
Hazle Mountain Coal Co.,	183,401	......	182,149	......	172,565	1	117,946	1	108,851	1	764,912	3	254,971	3.92
Raub Coal Co.,	116,922	1	150,948	1	162,621	......	154,391	1	144,482	3	729,364	6	121,561	8.23
John S. Wentz and Co.,	157,343	1	120,428	......	136,359	1	126,963	......	159,331	1	700,424	3	233,475	4.28
Buck Ridge Coal Mining Co.,	143,072	......	152,334	......	158,770	......	98,715	3	129,099	2	681,990	5	136,398	7.33
W. R. McTurk Coal Co.,	152,332	......	115,557	......	147,293	2	132,898	......	161,098	......	649,178	2	324,589	3.08
Green Ridge Coal Co.,	133,404	......	145,910	......	132,871	......	114,933	3	112,153	......	639,271	3	213,090	4.69
Harleigh Brookwood Coal Co.,	§	......	§	......	128,044	1	154,241	1	345,685	7	627,970	9	69,774	14.33
M. S. Kemmerer and Co.,	106,702	......	93,292	1	149,611	......	135,333	......	110,803	1	595,741	2	297,736	3.36
O'Boyle-Foy Anthracite Coal Co.,	104,938	......	108,403	......	142,523	1	135,561	......	94,587	......	586,012	1	586,012	1.71
Treverton Colliery Co.,	67,422	......	90,111	......	114,265	1	170,115	......	125,621	......	567,534	1	567,534	1.74
Darkwater Coal Co.,	65,575	......	97,775	......	115,842	2	113,401	1	116,479	......	509,072	3	169,691	5.89
Totals and averages,	2,637,753	11	2,849,988	9	2,677,064	17	2,380,222	13	2,659,425	23	13,204,452	73	180,882	5.53
Miscellaneous Companies,	2,432,862	17	2,180,040	19	1,849,391	16	1,724,504	14	1,924,253	23	10,111,050	99	102,132	9.79

§Not operating.

TABLE 12.—Companies that had no fatal accidents, 1909-1913, inclusive

Names of Companies	1909	1910	1911	1912	1913
	Production in tons of 2,000 pounds	Production in tons of 2,000 pounds	Production in tons of 2,000 pounds	Production in tons of 2,000 pounds	Production in tons of 2,000 pounds
Connell Anthracite Mining Co.,	394,156	387,206	409,098	310,834	371,626
H. H. Smith Coal Co.,	86,106	85,928	103,074	58,416	78,070
South Side Coal Co.,	....	....	....	....	*70,797
Mt. Hope Coal Co.,	92,483	95,249	96,628	71,682	50,118
Wolf Creek Coal Co.,	....	....	....	34,411	47,659
West Nanticoke Coal Co.,	[illegible]	58,846	55,628	43,193	40,295
John H. Davis Coal Co.,	32,651	[illegible]	38,278	33,431	35,720
Eastern Pennsylvania Coal Co.,	....	....	....	....	*35,522
Gorman and Campion,	14,429	14,983	26,312	22,314	35,394
Premier Coal Co.,	....	....	....	16,699	30,874
Schuylkill and Lehigh Coal Co.,	....	....	19,301	61,398	30,531
Oxford Coal Co.,	38,152	78,342	164,705	105,391	22,792
Bright Coal Co.,	11,000	14,333	18,474	20,916	22,385
Butcher Creek Coal Co.,	28,031	14,560	25,200	19,871	18,063
Noble-Williams Coal Co.,	....	....	....	....	*11,454
Carlton Coal Co.,	....	....	426	8,666	9,376
Clinton Falls Coal Co.,	2,861	4,413	9,296	14,235	7,692
Wachna-Taylor Anthracite Coal Co.,	....	....	....	10,489	7,675
Number Six Coal Co.,	....	....	....	4,896	7,595
Beaver Valley Coal Co.,	....	15,035	....	5,077	6,748
Moses Neyer,	8,027	7,001	6,222	5,974	5,974
Black Heath Coal Co.,	....	....	....	....	*5,507
Thomas R. Reese and Son,	6,237	1,623	5,821	6,225	3,984
Locust Mountain Coal Co.,	....	....	....	....	*2,800
Moosic Coal Co.,	....	....	1,959	4,124	835

*New operation.

TABLE 13.—Average number of days worked by breakers, total production and average production per day, 1899-1913, inclusive

Years	Average number of days worked	Production in tons of 2,000 pounds	Average production per day	Production from washeries (net tons)
1899,	179	60,518,331	338,119	1,055,125
1900,	176	57,363,396	325,928	1,818,170
1901,	195	67,094,665	344,075	2,009,864
1902,	*116	41,340,935	†356,387	[illegible]
1903,	211	75,232,585	356,553	4,119,258
1904,	213	73,594,369	345,513	[illegible]
1905,	208	78,647,[illegible]	378,111	[illegible]
1906,	206	72,139,510	350,192	4,880,402
1907,	227	86,056,412	379,103	[illegible]
1908,	211	83,[illegible],243	395,939	4,635,923
1909,	205	80,223,828	391,336	5,206,762
1910,	212	83,683,904	394,726	5,412,167
1911,	231	90,917,176	388,535	[illegible]
1912,	220	84,[illegible]	383,758	4,317,161
1913,	242	91,626,961	378,624	2,934,157

*Strike during the year.
†Washeries worked during the strike. The time was not computed in the average days worked.

TABLE AA—Part 1—Number of net tons of coal mined, number of days worked, number of persons employed, number of fatal and non-fatal accidents, quantity of explosives used, etc., 1899-1913, inclusive

Districts	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production in tons of 2,000 pounds	Average number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
									Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
First,	3,796,466	418,601	43,146	4,258,213	239	8,413	28	96	3,266,375	784,138	26,879	583
Second,	3,676,855	431,193	95,152	4,203,200	233	9,111	46	51	4,460,225	430,924	49,807	769
Third,	3,319,342	242,173	111,845	3,673,360	212	7,626	22	45	3,909,425	139,506	38,434	731
Fourth,	4,265,359	158,368	161,077	4,584,804	236	8,446	25	82	4,362,576	340,325	....	672
Fifth,	3,320,655	278,879	48,316	3,647,850	213	6,791	20	43	3,341,750	136,334	80,041	459
Sixth,	5,622,826	517,499	54,043	6,194,368	251	12,108	36	81	5,251,825	317,232	209,117	1,187
Seventh,	5,677,516	690,262	313,253	6,681,031	229	10,851	47	57	3,842,150	551,368	313,796	1,190
Eighth,	3,897,704	500,529	95,937	4,494,170	245	8,455	47	48	2,539,650	1,183,551	74,563	1,066
Ninth,	5,334,923	493,844	162,335	5,991,102	243	10,019	36	44	2,979,875	85,890	193,712	1,185
Tenth,	5,147,593	441,012	63,402	5,652,007	235	10,007	32	46	2,493,350	333,541	618,324	668
Eleventh,	5,679,886	750,521	150,455	6,580,862	253	11,102	23	62	383,525	2,477,819	....	947
Twelfth,	3,026,336	474,982	52,155	3,553,473	260	7,009	30	23	1,167,615	642,692	110,109	534
Thirteenth,	2,613,594	350,879	70,637	3,035,110	258	6,879	29	36	390,625	741,189	106,005	502
Fourteenth,	3,139,062	536,355	53,901	3,729,318	231	6,651	16	48	203,100	1,122,001	122,020	559
Fifteenth,	2,850,781	333,852	48,621	3,233,254	250	7,134	25	30	498,000	1,474,377	37,847	576
Sixteenth,	2,952,976	372,049	77,649	3,402,674	254	7,239	22	80	1,336,220	517,957	38,413	677
Seventeenth,	4,659,678	667,788	163,736	5,491,202	270	9,688	33	26	78,500	1,823,995	165,344	425
Eighteenth,	2,945,379	344,776	34,938	3,325,093	227	6,511	31	78	321,324	1,063,460	194,233	601
Nineteenth,	3,084,086	538,151	40,367	3,662,604	266	7,825	18	43	377,875	720,424	438,311	608
Twentieth,	2,200,490	465,711	40,743	2,706,944	267	6,045	36	38	296,525	587,070	243,326	554
Twenty-first,	3,111,497	350,338	61,530	3,523,365	214	7,400	22	68	2,501,150	619,242	263,364	616
Totals, 1913,	89,325,964	9,357,762	1,943,238	91,626,964	242	175,310	624	1,125	44,001,660	16,093,035	3,323,645	15,109

TABLE AA—Part 1.—Continued

Years	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production in tons of 2,000 pounds	Average number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
									Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
1912, ...	73,462,014	8,804,759	2,160,096	84,426,869	220	175,098	601	976	41,401,015	13,685,062	2,037,026	15,187
1911, ...	79,775,010	9,152,073	1,990,093	90,917,176	234	173,338	699	1,124	47,846,483	13,369,056	2,122,264	15,625
1910, ...	73,418,729	8,396,895	1,868,369	83,683,994	212	168,175	601	1,050	45,112,322	11,171,458	1,506,140	15,847
1909, ...	70,314,739	8,103,810	1,805,284	80,223,833	205	171,195	567	1,034	41,191,857	10,724,616	666,827	16,122
1908, ...	73,507,322	8,320,032	1,715,889	83,543,243	211	174,503	678	1,170	49,380,800	10,766,245	....	16,837
1907, ...	76,138,664	8,217,439	1,700,309	86,056,412	227	168,774	708	1,369	47,636,700	10,544,781	....	17,125
1906, ...	63,418,916	7,198,140	1,522,454	72,139,510	206	166,175	557	1,212	40,352,075	7,980,733	....	16,972
1905, ...	69,934,070	7,122,394	1,590,556	78,647,020	208	168,254	644	1,289	47,570,500	8,353,594	....	17,500
1904, ...	65,137,283	6,912,358	1,544,728	73,594,369	213	161,330	599	1,047	44,779,800	6,519,312	....	17,085
1903, ...	67,458,836	6,395,582	1,378,167	75,232,585	211	151,827	518	1,325	42,529,400	5,317,422	....	16,872
1902, ...	35,338,031	4,955,752	1,047,152	41,340,935	116	148,139	300	641	21,128,675	2,130,965	....	16,139
1901, ...	59,861,650	5,912,900	1,320,115	67,094,665	195	147,651	513	1,243	38,020,100	4,155,685	....	16,059
1900, ...	50,704,201	5,466,644	1,192,551	57,363,396	176	143,824	411	1,057	30,929,500	3,454,641	....	15,708
1899, ...	53,705,009	5,568,539	1,244,783	60,518,331	179	140,604	461	1,030	34,317,275	3,649,417	....	15,690

TABLE AA—Part 2, 1913

Districts	Boilers			Locomotives					Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
	Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
First,	42	1,134	93	15,275	16,409	28	19	56	267	19,282	50	66,282	22,159	23	14
Second,	6	750	106	21,630	22,380	14	35	39	209	29,317	32	45,554	23,675	15	16
Third,	32	1,488	82	13,280	14,768	10	....	26	173	12,621	29	27,144	12,933	11	6
Fourth,	15	402	49	8,082	8,484	8	....	103	198	17,051	37	25,570	17,991	17	5
Fifth,	28	980	103	15,480	16,460	10	....	69	184	13,931	33	48,520	26,260	9	3
Sixth,	....	....	186	30,536	30,536	25	12	61	413	30,887	47	50,070	33,357	15	24
Seventh,	24	1,467	145	31,147	32,614	34	15	18	517	52,782	45	43,886	25,005	11	30
Eighth,	....	....	121	29,372	29,372	14	6	31	368	31,678	57	61,228	35,424	20	11
Ninth,	59	2,693	131	26,765	29,458	14	6	28	546	46,144	46	58,949	25,832	14	26
Tenth,	30	1,010	94	24,860	25,870	29	12	80	228	30,918	31	26,047	18,113	22	24
Eleventh,	11	330	270	52,480	52,810	91	11	28	389	53,741	96	111,501	56,620	13	27
Twelfth,	....	....	153	22,100	22,100	18	15	16	330	46,067	32	59,222	16,998	3	14
Thirteenth,	....	....	166	22,475	22,475	42	7	8	301	37,215	30	45,281	16,897	4	15
Fourteenth,	32	1,071	143	24,650	25,721	50	5	27	324	36,720	53	55,028	37,754	6	10
Fifteenth,	....	....	126	19,200	19,200	24	4	21	234	30,994	44	47,342	23,773	10	18
Sixteenth,	20	640	144	19,107	19,747	24	....	13	294	30,104	41	42,801	15,587	8	15
Seventeenth,	3	186	169	33,861	34,047	49	2	61	267	41,876	35	58,290	11,475	10	19
Eighteenth,	40	1,300	187	25,940	27,240	38	9	9	247	35,726	48	58,077	26,655	8	22
Nineteenth,	....	....	175	30,085	30,085	43	1	19	401	42,863	46	53,299	17,720	13	13
Twentieth,	7	950	174	21,675	22,625	17	2	27	275	39,428	18	33,668	9,691	10	11
Twenty-first,	37	1,075	117	18,495	19,570	25	....	41	275	17,675	79	29,170	16,822	19	7
Totals,	386	15,476	2,934	506,495	521,971	607	161	781	6,549	697,063	929	1,037,009	489,600	261	332

TABLE A—Number of each class of employes in each district, 1913

Occupations of Employes	Districts										
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh
Inside											
Mine foremen,	15	20	20	20	17	30	29	25	24	17	39
Assistant mine foremen,	27	19	21	15	24	79	99	77	29	25	92
Fire bosses and assistants,	10	66	31	55	28	38	71	40	69	80	9
Miners,	2,111	2,286	1,861	2,315	1,896	3,197	2,990	2,475	2,496	2,753	3,034
Miners' laborers,	2,371	2,566	1,947	2,350	1,892	3,078	2,079	1,567	2,315	2,488	1,885
Drivers and runners,	747	951	810	538	370	1,029	970	847	866	523	477
Doorboys and helpers,	182	143	183	161	98	140	365	112	248	149	123
Pumpmen,	32	62	35	55	42	72	84	115	80	53	105
Company men,	554	834	535	271	414	945	1,167	621	1,259	982	648
All other employes,	308	535	479	1,020	432	659	622	505	341	582	1,020
Totals,	6,357	7,482	5,922	6,800	5,213	9,267	8,476	6,384	7,727	7,652	7,432
Outside											
Superintendents,	4	2	7	1	5	5	4	6	4	4	9
Foremen,	18	16	16	22	14	17	25	16	19	13	34
Blacksmiths and carpenters,	96	104	155	87	101	229	119	212	153	190	307
Engineers and firemen,	249	286	157	145	150	317	386	298	368	329	501
Slatepickers (boys),	184	231	311	332	387	441	281	194	309	381	279
Slatepickers (men),	409	167	143	83	131	243	124	168	192	112	221
Bookkeepers and clerks,	24	27	31	42	31	23	53	45	36	49	67
All other employes,	1,072	796	884	934	759	1,566	1,383	1,132	1,211	1,277	2,252
Totals,	2,056	1,629	1,704	1,646	1,578	2,841	2,375	2,071	2,292	2,355	3,670
Grand totals inside and outside,	8,413	9,111	7,626	8,446	6,791	12,108	10,851	8,455	10,019	10,007	11,102

TABLE A′—Continued

Occupations of Employes	Districts										Grand totals inside and outside
	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth	Nineteenth	Twentieth	Twenty-first	
Inside											
Mine foremen,	11	12	27	13	16	18	18	20	11	22	424
Assistant mine foremen,	89	64	91	43	50	37	54	59	65	27	1,086
Fire bosses and assistants,	....	18	7	36	51	71	20	42	24	12	778
Miners,	1,478	1,024	1,136	2,311	2,139	1,846	1,735	1,868	1,410	1,985	44,346
Miners' laborers,	1,146	964	937	815	769	630	835	1,000	517	1,822	33,973
Drivers and runners,	337	264	212	383	353	308	289	351	303	535	11,463
Doorboys and helpers,	63	60	93	60	55	73	69	53	63	118	2,611
Pumpmen,	27	41	58	59	47	30	47	54	42	71	1,211
Company men,	610	868	487	384	650	2,460	635	642	546	400	15,912
All other employes,	1,145	849	1,118	1,131	962	1,240	888	1,140	1,538	319	16,863
Totals,	4,906	4,164	4,166	5,235	5,092	6,713	4,590	5,229	4,519	5,341	128,667
Outside											
Superintendents,	1	8	5	3	4	6	13	14	2	14	121
Foremen,	15	32	26	14	17	21	24	28	14	18	419
Blacksmiths and carpenters,	74	181	150	97	116	271	146	156	102	145	3,191
Engineers and firemen,	270	358	333	284	316	353	300	356	280	239	6,275
Slatepickers (boys),	302	265	213	410	377	295	250	301	145	258	6,146
Slatepickers (men),	99	111	89	59	75	61	40	111	11	326	2,975
Bookkeepers and clerks,	34	50	34	42	52	47	35	49	31	39	841
All other employes,	1,308	1,710	1,635	990	1,190	1,921	1,113	1,581	941	1,020	26,675
Totals,	2,103	2,715	2,485	1,899	2,147	2,975	1,921	2,596	1,526	2,059	46,643
Grand totals inside and outside,	7,009	6,879	6,651	7,134	7,239	9,688	6,511	7,825	6,045	7,400	175,310

TABLE B—Causes of fatal accidents inside and outside the mines, and number attributable to each cause; number of wives made widows and children made orphans by reason of such accidents, 1913

Causes of Fatal Accidents	Districts																	
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth
Inside																		
Falls of coal, slate and roof,	19	28	7	10	11	23	16	21	19	17	12	11	10	2	9	10	6	10
Mine cars,	2	7	7	3	4	2	7	12	......	5	5	5	4	2	5	3	3	4
Explosions of gas,	......	......	2	2	......	1	4	......	2	3	......	3	......	......	1	1	4	......
Suffocation by gas, etc.,	......	......	......	1	......	......	......	......	4	......	......	......	1	......	4	1	......	......
Explosions of powder and dynamite,	......	2	......	1	3	1	1	1	......	......	......	......	......	......	1	1	......	......
Blasts, premature and otherwise,	3	4	5	3	1	8	6	9	5	1	2	......	3	1	1	2	......	4
Falling into shafts, slopes, etc.,	......	4	......	......	......	......	3	1	1	......	......	......	5	3	......	1	5	4
Crushed at batteries,	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	1
Kicked by mules, etc.,	1	......	......	......	......	......	......	1	1	......	......	......	......	......	......	......	......	......
Machinery,	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	......
Electricity,	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......
Miscellaneous,	1	......	......	......	1	......	4	1	......	4	1	4	3	5	1	......	5	3
Totals,	26	45	21	20	20	35	42	46	33	30	20	23	26	13	22	19	26	26
Outside																		
Cars,	1	......	......	2	......	1	4	......	1	......	1	5	2	1	2	3	6	1
Machinery,	......	......	1	1	......	......	......	......	1	1	......	2	......	1	......	......	......	2
Suffocation in chutes, etc.,	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	1
Boiler explosions,	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Electricity,	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......
Miscellaneous,	1	1	......	2	......	......	......	1	1	......	2	......	1	1	1	......	1	2
Totals,	2	1	1	5	......	1	5	1	3	2	3	7	3	3	3	3	7	5
Grand totals inside and outside,	28	46	22	25	20	36	47	47	36	32	23	30	29	16	25	22	33	31

Widows, 391.
Orphans, 909.

TABLE B—Continued

Causes of Fatal Accidents	Districts				Percentages for 1913	Percentages for 1912	Percentages for 1911	Percentages for 1910	Percentages for 1909	Percentages for 1908	Percentages for 1907	Percentages for 1906	Percentages for 1905	Percentages for 1904
	Nineteenth	Twentieth	Twenty-first	Totals										
Inside														
Falls of coal, slate and roof,	7	5	8	261	46.86	49.40	41.14	49.71	51.84	47.65	46.42	46.93	53.54	47.98
Mine cars,	1	2	3	86	15.44	15.66	14.96	18.07	14.49	15.10	14.64	14.69	14.88	14.31
Explosions of gas,	3	22	......	48	8.62	7.03	5.53	3.93	5.71	9.56	7.32	9.43	5.99	6.05
Suffocation by gas, etc.,	3	1	......	15	2.69	1.01	13.98	2.75	3.47	.67	3.33	1.53	1.81	4.03
Explosions of powder and dynamite,	......	......	......	11	1.97	5.62	3.42	4.32	4.49	3.86	2.83	6.14	2.91	7.06
Blasts, premature and otherwise,	1	......	3	62	11.13	10.24	10.89	11.79	9.59	11.58	11.65	11.62	7.99	6.86
Falling into shafts, slopes, etc.,	......	3	......	30	5.39	3.61	3.42	3.73	3.67	3.69	4.16	4.39	7.80	5.24
Crushed at batteries,	......	......	......	3	.54	.80	.81	.59	.82	.34	.33	.44	.55	.61
Kicked by mules, etc.,	......	......	......	3	.54	.40	.49	.20	1.23	.67	1.33	.66	.36	1.21
Machinery,	......	......	......	2	.36	....	.65	.39	....	.17	.33	.44	....	....
Electricity,	......	......	......	1	.18	1.01	.32	.59	1.22	.17	.50	....	....	....
Miscellaneous,	......	......	2	35	6.28	5.82	4.39	3.93	3.47	6.54	7.16	3.73	4.17	6.65
Totals,	15	33	16	557	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Outside														
Cars,	1	2	4	37	55.23	39.81	30.95	43.48	33.77	42.68	44.86	35.65	24.73	43.44
Machinery,	......	1	2	12	17.91	19.42	26.19	27.17	25.97	35.37	27.10	22.77	25.48	15.15
Suffocation in chutes, etc.,	1	......	......	2	2.98	11.65	9.53	2.18	12.99	1.22	2.80	8.91	11.83	8.08
Boiler explosions,	......	......	......	......	....	....	1.19	....	....	1.22	.94	.99	1.08	2.02
Electricity,	......	......	......	1	1.49	1.94	1.19	....	....	1.22	1.87	....	....	....
Miscellaneous,	1	......	......	15	22.39	27.18	30.95	27.17	27.27	18.29	22.43	31.68	26.88	31.31
Totals,	3	3	6	67	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Grand totals inside and outside,	18	36	22	624	....	....	....	....	....	....	....	....	....	....

TABLE C—Causes of non-fatal accidents inside and outside the mines, and number attributable to each cause, 1913

Causes of Non-Fatal Accidents	Districts																					Totals	Percentages
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth	Thirteenth	Fourteenth	Fifteenth	Sixteenth	Seventeenth	Eighteenth	Nineteenth	Twentieth	Twenty-first		
Inside																							
Falls of coal, slate and roof,	47	20	18	30	17	23	12	16	18	18	16	6	7	9	5	24	4	20	9	16	27	362	36.57
Mine cars,	16	13	18	19	10	21	18	15	9	16	14	4	6	8	10	11	3	12	8	6	14	251	25.35
Explosions of gas,	2	1	....	7	1	6	7	1	2	1	3	2	10	3	2	20	7	14	12	3	2	106	10.71
Explosions of powder and dynamite,	1	1	2	1	2	1	1	1	....	....	3	1	1	1	4	4	....	2	....	1	2	29	2.93
Blasts, premature and otherwise,	5	3	3	10	3	11	7	3	3	3	3	3	2	2	2	1	....	6	7	2	5	84	8.48
Falling into shafts, slopes, etc.,	....	....	....	1	....	1	1	....	....	2	....	....	....	....	....	3	....	1	1	3	....	13	1.31
Crushed at batteries,	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	2	.20
Kicked by mules, etc.,	3	1	2	3	1	2	....	....	....	....	1	....	....	....	....	3	....	3	....	....	3	22	2.22
Machinery,	1	1	....	1	1	....	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	6	.61
Electricity,	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	.10
Miscellaneous,	7	3	1	6	6	7	8	4	7	3	4	2	4	14	3	4	6	10	3	4	8	114	11.52
Totals,	83	43	44	78	41	72	54	41	39	43	44	18	32	37	27	70	20	68	40	35	61	990	100.00
Outside																							
Cars,	7	2	1	1	....	3	2	3	....	1	7	5	2	3	1	5	2	5	1	2	6	59	43.71
Machinery,	1	3	....	1	....	1	....	1	2	1	3	....	....	2	....	1	....	2	....	....	....	18	13.33
Boiler explosions,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Electricity,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Miscellaneous,	5	3	....	2	2	5	1	3	3	1	8	....	2	6	2	4	4	3	2	1	1	58	42.96
Totals,	13	8	1	4	2	9	3	7	5	3	18	5	4	11	3	10	6	10	3	3	7	135	100.00
Grand totals inside and outside,	96	51	45	82	43	81	57	48	44	46	62	23	36	48	30	80	26	78	43	38	68	1125	....

TABLE D—Number of gaseous and non-gaseous mines in operation, number of foremen, assistants and fire bosses; production and percentage of production in net tons from gaseous and non-gaseous mines and washeries, by districts, 1913

Districts	Gaseous Mines				Non-gaseous Mines			Production in tons of 2,000 pounds from gaseous mines	Production in tons of 2,000 pounds from non-gaseous mines	Production in tons of 2000 pounds from washeries	Percentage of production from gaseous mines	Percentage of production from non-gaseous mines	Percentage of production from washeries
	Number of gaseous mines in operation	Number of mine foremen	Number of assistant mine foremen	Number of fire bosses	Number of non-gaseous mines in operation	Number of mine foremen	Number of assistant mine foremen						
First,	4	2	4	10	23	13	23	1,190,273	3,064,488	3,452	27.95	71.97	.08
Second,	22	14	15	66	4	6	4	3,624,299	332,370	246,531	86.23	7.91	5.86
Third,	10	10	10	31	13	10	11	2,521,340	1,088,051	63,969	68.64	29.62	1.74
Fourth,	21	15	12	55	13	5	3	3,257,057	708,151	619,596	71.04	15.45	13.51
Fifth,	13	8	6	28	18	9	18	1,859,353	1,788,497	....	50.97	49.03	....
Sixth,	21	17	51	38	20	13	28	4,117,424	2,076,944	....	66.47	33.53	....
Seventh,	43	26	95	71	5	3	4	6,055,210	306,440	319,381	90.63	4.59	4.78
Eighth,	17	19	60	40	10	6	17	3,587,216	847,074	59,880	79.82	18.85	1.33
Ninth,	27	19	25	69	16	5	4	5,221,023	450,432	319,647	87.15	7.52	5.33
Tenth,	34	14	19	80	16	3	6	4,853,303	635,375	163,329	85.87	11.24	2.89
Eleventh,	28	21	56	9	50	18	36	2,882,239	3,641,383	57,240	43.80	55.33	.87
Twelfth,	16	11	89	....	....	....	.....	3,553,473	....	....	100.00	....	....
Thirteenth,	24	11	62	18	5	1	2	2,721,179	213,070	100,861	89.66	7.02	3.32
Fourteenth,	27	27	88	7	10	....	3	3,433,776	295,542	....	92.08	7.92	....
Fifteenth,	11	9	33	36	13	4	10	2,444,431	791,823	....	75.53	24.47	....
Sixteenth,	23	15	36	51	19	1	14	2,507,388	847,067	48,179	73.69	24.90	1.41
Seventeenth,	19	14	33	71	20	4	4	4,289,674	564,174	637,354	78.12	10.27	11.61
Eighteenth,	24	12	39	20	21	6	15	2,248,108	1,076,985	....	67.61	32.39	....
Nineteenth,	31	15	46	42	20	5	13	3,140,237	474,430	47,937	85.74	12.95	1.31
Twentieth,	23	11	65	24	1	....	.....	2,488,718	200	218,026	91.94	.01	8.05
Twenty-first,	4	3	4	12	30	19	23	556,865	2,937,725	28,775	15.80	83.38	.82
Totals and percentages,	442	239	848	778	327	131	233	66,552,586	22,140,221	2,934,157	72.64	24.16	3.20

TABLE E—Quantity of coal produced by each company that produced 300,000 or more tons, and the number of persons employed, 1913

Names of Companies	Inspection Districts	Number of employes inside	Number of employes outside	Total number of employes	Production of coal in net tons
Philadelphia and Reading Coal and Iron Company,	Twelfth, Thirteenth, Fourteenth, Fifteenth, Sixteenth, Eighteenth, Nineteenth, Twentieth,	19,055	7,875	26,930	12,705,331
Delaware, Lackawanna and Western Railroad Company,	Second, Third, Fourth, Fifth, Eighth, Ninth, Tenth,	15,824	3,242	19,066	10,288,190
Lehigh Valley Coal Company,	Fifth, Sixth, Seventh, Eighth, Eleventh, Twelfth, Fourteenth, Eighteenth, Twentieth,	11,215	3,876	15,091	9,056,567
Delaware and Hudson Company,	First, Second, Sixth, Seventh, Ninth,	10,961	3,272	14,233	7,336,094
Lehigh and Wilkes-Barre Coal Company,	Seventh, Ninth, Tenth, Eighteenth,	7,902	2,029	9,931	6,405,808
Pennsylvania Coal Company,	Third, Fifth, Sixth,	8,510	2,816	11,326	6,040,021
Lehigh Coal and Navigation Company,	Seventeenth,	6,009	2,531	8,540	4,843,508
Scranton Coal Company,	First, Second, Third, Fourth, Twenty-first,	4,055	1,355	5,410	2,423,657
Susquehanna Coal Company,	Tenth, Thirteenth,	2,907	1,374	4,281	2,247,021
Mineral Railroad and Mining Company,	Fifteenth, Sixteenth,	3,730	1,489	5,219	2,238,029
Kingston Coal Company,	Eighth, Ninth,	2,541	894	3,435	1,985,275
Hillside Coal and Iron Company,	First, Fifth, Sixth, Twenty-first,	2,692	946	3,638	1,727,768
Hudson Coal Company,	Third, Fourth, Fifth, Sixth, Twenty-first,	2,767	841	3,608	1,718,522
Coxe Brothers and Company, Incorporated,	Eleventh, Seventeenth, Eighteenth,	1,442	783	2,225	1,636,341
G. B. Markle Company,	Eleventh,	1,636	600	2,236	1,625,468
Summit Branch Mining Company,	Twentieth,	1,687	763	2,450	1,060,270
Pardee Brothers Coal Company,	Eleventh,	730	399	1,129	714,068
Price-Pancoast Coal Company,	Third,	1,187	252	1,439	713,896
West End Coal Company,	Tenth,	1,036	296	1,332	707,006
A. Pardee and Company,	Eleventh,	1,019	505	1,524	656,989
Forty Fort Coal Company,	Eighth,	1,096	296	1,392	620,712
Jermyn and Company,	Fifth,	778	181	959	568,534
Sterrick Creek Coal Company,	First,	812	180	992	503,583
C. M. Dodson and Company,	Eleventh,	490	254	744	440,524
Lytle Coal Company,	Nineteenth,	594	239	833	433,524
Mt. Lookout Coal Company,	Eighth,	621	146	767	420,922
Lackawanna Coal Company, Limited,	Twenty-first,	679	174	853	384,842
Pine Hill Coal Company,	Nineteenth,	540	191	731	383,329
Plymouth Coal Company,	Eighth, Ninth,	618	248	866	383,254
Clair Coal Company,	Nineteenth,	394	316	710	378,180
[illegible]l Anthracite Mining Company,	Twenty-first,	330	140	470	371,626
Maryd Coal Company,	Eighteenth,	360	148	508	351,906

TABLE E—Continued

Names of Companies	Inspection Districts	Number of employes inside	Number of employes outside	Total number of employes	Production of coal in net tons
Harleigh Brookwood Coal Company,	Eleventh, Thirteenth, Fourteenth,	427	352	779	345,685
Mt. Jessup Coal Company, Limited,	Twenty-first,	511	296	807	344,046
Midvalley Coal Company,	Fourteenth,	356	205	561	341,451
Alden Coal Company,	Tenth,	560	177	737	337,666
Dodson Coal Company,	Eighteenth,	409	196	605	324,637
Thomas Colliery Company,	Thirteenth,	278	213	491	322,683
Estate A. S. Van Wickle,	Seventeenth,	405	215	620	318,946
Oak Hill Coal Company,	Nineteenth,	503	222	725	308,278
Totals,		117,666	40,527	158,193	84,014,157

The 40 companies named in this table, out of 121 companies in the region, produced 84,014,157 tons or 91.69 per cent. of the total output, 91,626,964 tons.

TABLE F—Classification of employes killed or fatally injured inside and outside the mines, 1899-1913, inclusive

Employes Killed or Fatally Injured	Years															
	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	Totals
Inside																
Mine foremen and assistants,	2	......	5	2	3	3	1	2	2	3	1	2	2	1	3	32
Fire bosses and assistants,	2	5	2	3	2	1	2	6	2	3	2	2	5	1	8	46
Miners,	199	184	224	114	202	233	308	226	309	313	264	254	306	262	286	3,684
Miners' laborers,	114	95	122	62	110	145	148	133	136	154	126	147	176	117	148	1,933
Drivers and runners,	39	33	45	27	46	31	31	32	46	49	37	40	45	42	33	576
Doorboys, etc.,	18	8	6	5	12	20	14	9	18	18	11	6	15	8	7	175
All other employes,	15	33	37	32	51	63	47	48	88	56	49	58	66	67	72	782
Totals,	389	358	441	245	426	496	551	456	601	596	490	509	615	498	557	7,228
Outside																
Foremen,	1	......	......	......	1	1	......	2	......	2	1	......	4	1	3	16
Blacksmiths and carpenters,	2	2	......	2	4	5	5	5	1	5	4	6	7	3	1	52
Engineers and firemen,	6	2	5	7	6	3	6	3	8	4	7	4	2	7	1	71
Slatepickers,	10	9	9	12	9	11	24	14	16	14	7	8	8	5	3	159
All other employes,	53	40	58	34	72	79	58	77	82	57	58	74	63	87	59	951
Totals,	72	53	72	55	92	99	93	101	107	82	77	92	84	103	67	1,249
Grand totals inside and outside,	461	411	513	300	518	595	644	557	708	678	567	601	699	601	624	8,477

TABLE G—Number and causes of fatal accidents in and about the mines, by decades, 1870-1913, inclusive

Causes of Fatal Accidents	1870-1879	Percentages	1880-1889	Percentages	1890-1899	Percentages	1900-1909	Percentages	1910-1913	Percentages	Grand totals	Percentages for 44 years
Inside												
Falls of coal, slate and roof,	927	46.44	1,351	50.37	1,928	51.87	2,291	49.16	1,013	46.49	7,510	49.30
Mine cars,	263	13.18	470	17.52	535	14.39	710	15.23	348	15.97	2,326	15.27
Explosions of gas,	243	12.17	250	9.32	399	10.74	352	7.55	137	6.28	1,381	9.06
Explosions of powder and dynamite,	76	3.81	82	3.06	117	3.15	206	4.42	79	3.63	560	3.67
Blasts, premature and otherwise,	124	6.21	182	6.79	280	7.53	435	9.34	240	11.01	1,261	8.28
Falling into shafts, slopes, etc.,	100	5.01	117	4.36	178	4.79	241	5.17	88	4.04	724	4.75
Crushed at batteries,	12	.60	5	.19	12	.32	17	.37	15	.69	61	.40
Mules,	16	.80	8	.30	44	1.18	37	.79	9	.41	114	.75
Suffocation,	53	2.66	10	.37	114	3.07	103	2.21	120	5.51	400	2.63
Electricity,	....	....	....	....	....	....	10	.22	11	.51	21	.14
Miscellaneous causes,	182	9.12	207	7.72	110	2.96	258	5.54	119	5.46	876	5.75
Totals and percentages,	1,996	100.00	2,682	100.00	3,717	100.00	4,660	100.00	2,179	100.00	15,234	100.00
Outside												
Cars,	76	30.16	167	39.11	199	31.74	310	38.03	144	41.62	902	36.33
Machinery,	66	26.19	110	25.76	127	20.26	212	25.51	80	23.12	595	23.96
Suffocation in chutes, etc.,	14	5.56	3	.70	33	5.26	54	6.50	23	6.65	127	5.11
Boiler explosions,	21	8.33	29	6.79	36	5.74	9	1.08	1	.29	96	3.87
Electricity,	....	....	....	....	....	....	3	.36	4	1.15	7	.28
Miscellaneous causes,	75	29.70	118	27.64	232	37.00	237	28.52	94	27.17	756	30.45
Totals and percentages,	252	100.00	427	100.00	627	100.00	831	100.00	346	100.00	2,483	100.00
Grand totals inside and outside,	2,248	....	3,109	....	4,344	....	5,491	....	2,525	....	17,717	....

TABLE H—Nationality of employes killed or fatally injured inside and outside the mines, 1892-1913, inclusive

Nationality	1892–1895	1896–1900	1901–1905	1906–1910	1911–1913
American,	310	404	617	618	381
English,	124	132	94	78	44
Welsh,	154	176	122	122	53
Scotch,	8	21	12	9	5
Irish,	287	332	212	159	78
German,	93	97	97	80	37
Totals,	976	1,162	1,154	1,066	598
Polish,	420	609	669	926	500
Hungarian,	195	186	103	89	23
Italian,	67	68	142	246	161
Slavonian,	30	42	151	200	168
Lithuanian,	17	36	152	321	254
Austrian,	20	39	84	77	60
Russian,	7	39	88	150	112
Greek,	5	15	9	13	20
Swedish,	3	10	4	5	5
French,	1	2	2	....	2
Tyrolean,	....	3	9	13	5
Bohemian,	....	1	....	3	3
Assyrian,	....	....	1	....	....
Canadian,	....	....	2	....	....
Montenegrian,	....	....	....	2	2
Horwat,	....	....	....	....	4
Magyar,	....	....	....	....	6
Hebrew,	....	....	....	....	....
Syrian,	....	....	....	....	1
Totals,	765	1,050	1,416	2,045	1,326
Grand totals,	1,741	2,212	2,570	3,111	1,924

TABLE I—Production of coal; production per employe inside; quantity of explosives used, and production per each pound of explosives used, 1892-1913, inclusive

Years	Production in tons of 2,000 pounds	Average number of tons of coal produced per employe inside	Explosives			Average number of tons of coal produced for each pound of explosives used
			Number of pounds of black powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
1892,	51,226,977	624	30,981,875	1,092,190	....	1.59
1893,	52,841,110	611	31,723,771	1,324,142	....	1.60
1894,	50,966,920	580	30,755,450	1,713,235	....	1.57
1895,	56,948,756	638	32,766,775	1,797,494	....	1.65
1896,	53,848,249	568	32,117,950	1,733,970	....	1.59
1897,	52,581,036	549	31,804,950	2,415,650	....	1.54
1898,	52,802,594	579	30,670,100	3,025,015	....	1.57
1899,	60,518,331	657	34,317,275	3,649,417	....	1.59
1900,	57,363,396	609	30,929,500	3,454,641	....	1.67
1901,	67,094,665	682	38,020,100	4,155,685	....	1.59
1902,	41,340,935	*482	21,128,675	2,130,965	....	†1.77
1903,	75,232,585	‡737	42,529,400	5,317,422	....	1.57
1904,	73,594,369	662	44,779,800	6,519,312	....	1.43
1905,	78,647,020	667	47,570,500	8,353,594	....	1.41
1906,	72,239,510	627	40,352,075	7,980,733	....	1.49
1907.	86,056,412	730	47,636,700	10,544,781	....	1.48
1908,	83.543,243	672	49,380,800	10,766,245	....	1.39
1909,	80,223,833	651	41,191,857	10,724,616	666,827	1.53
1910,	83,683,994	689	45,112,322	11,171,458	1,506,140	1.45
1911,	90,917,176	721	47,846,483	13,369,056	2,122,264	1.44
1912,	84.426,869	661	41,401,015	13,685,062	2,037,026	1.48
1913,	91,626,964	712	44,001,660	16,093,035	3,323,645	1.44

The ton of 2,000 pounds is used so that a comparison can be made with the bituminous production per pound of powder used.

*This decrease in production per employe inside was caused by the small number of days worked on account of the strike.

†The increase in production per pound of powder used was caused by the production of the washeries during the strike.

‡The increase in production per employe was due to the large production of the washeries.

TABLE J—Number of employes inside and outside the mines, by counties, 1899-1913, inclusive

Counties	1899	1900	1901	1902	1903	1904	1905	1906
Carbon,	3,993	4,242	4,365	3,805	4,051	4,467	4,240	4,469
Columbia,	2,302	2,033	2,329	2,339	2,236	2,192	2,368	2,246
Dauphin,	2,390	2,577	2,353	1,945	2,140	2,113	2,167	2,233
Lackawanna,	30,886	32,811	34,798	35,333	37,470	40,675	40,859	41,429
Luzerne,	50,803	52,015	53,280	52,766	55,639	59,136	60,734	54,441
Northumberland,	14,697	15,105	14,187	14,863	14,580	14,345	15,208	14,730
Schuylkill,	33,392	33,259	33,907	34,950	33,443	35,979	40,465	40,289
Sullivan,	465	521	434	752	648	665	536	634
Susquehanna,	1,210	1,250	1,409	1,386	1,363	1,392	1,307	1,320
Wayne,	406	11	589	....	253	366	370	384
Totals,	140,604	143,824	147,651	148,139	151,827	161,330	168,254	166,175

Counties	1907	1908	1909	1910	1911	1912	1913
Carbon,	4,782	5,522	5,155	5,362	5,223	5,778	5,689
Columbia,	2,295	2,412	2,393	1,812	2,066	2,166	2,119
Dauphin,	2,124	2,294	2,215	2,229	2,280	2,347	2,450
Lackawanna,	42,742	42,418	44,213	43,214	43,991	43,927	43,925
Luzerne,	58,795	63,099	60,500	59,395	62,880	63,128	63,898
Northumberland,	15,709	15,581	14,878	15,133	15,148	15,392	15,075
Schuylkill,	39,870	40,775	39,457	38,653	39,285	39,822	39,670
Sullivan,	719	875	963	920	992	996	1,024
Susquehanna,	1,275	1,302	1,227	1,267	1,313	1,391	1,420
Wayne,	463	225	194	190	160	151	40
Totals,	168,774	174,503	171,195	168,175	173,338	175,098	175,310

TABLE K—Production of coal in tons of 2,000 pounds, by counties, 1899-1913, inclusive

Counties	1899	1900	1901	1902	1903	1904	1905	1906
Carbon, ...	1,826,267	1,863,637	1,858,519	1,104,462	2,150,021	2,253,512	2,476,406	2,246,823
Columbia, ...	1,002,469	980,721	1,209,859	738,070	1,353,904	1,151,624	1,229,697	969,065
Dauphin, ...	817,328	779,135	830,572	423,341	732,970	723,414	723,126	734,723
Lackawanna, .	14,838,821	13,755,961	17,258,125	11,851,169	20,046,133	19,007,628	19,709,164	18,840,561
Luzerne, ...	22,287,712	21,481,122	23,963,869	14,577,949	27,878,362	27,705,288	29,992,636	26,612,192
Northumberland	4,860,292	4,690,944	5,430,991	3,162,066	5,518,580	5,516,647	5,483,181	5,367,497
Schuylkill, ...	13,694,171	12,998,899	15,277,658	8,622,103	16,389,505	16,173,158	17,975,160	16,376,538
Sullivan, ...	183,182	235,112	152,505	409,017	293,442	294,305	310,496	358,627
Susquehanna, .	699,020	556,003	743,105	452,758	800,773	692,440	680,146	562,103
Wayne, ...	309,069	21,862	369,462	....	68,895	71,353	67,008	71,381
Totals, ...	60,518,331	57,363,396	67,094,665	41,340,935	75,232,585	73,594,369	78,647,020	72,139,510

Counties	1907	1908	1909	1910	1911	1912	1913
Carbon, ...	2,762,573	2,784,946	2,652,997	3,214,169	3,312,483	2,843,876	3,353,277
Columbia, ...	1,188,268	1,182,326	1,093,103	960,145	1,193,736	1,214,527	1,214,648
Dauphin, ...	829,980	818,005	932,393	886,192	946,963	945,102	1,060,270
Lackawanna, ...	22,413,109	21,631,995	20,489,212	21,182,921	22,598,414	20,617,308	21,836,671
Luzerne, ...	30,853,087	31,728,997	30,992,306	32,106,979	35,061,582	32,643,232	36,326,287
Northumberland, ...	6,665,392	6,067,741	5,987,835	6,324,317	7,109,372	6,851,491	7,012,687
Schuylkill, ...	20,160,970	18,196,714	16,794,597	17,696,013	19,234,447	17,986,745	19,511,483
Sullivan, ...	433,101	550,712	641,216	632,874	717,429	649,235	664,063
Susquehanna, ...	644,088	487,900	589,835	628,808	672,600	582,510	594,764
Wayne, ...	85,594	63,906	50,339	51,576	70,150	92,843	52,814
Totals, ...	86,036,412	83,543,213	80,223,833	83,683,994	90,917,176	84,426,869	91,626,964

TABLE I.—Fatal accidents per 1,000 employes inside and outside the mines, and production in tons per fatal accident, by years and by decades, 1870-1913, inclusive

Years	Employes	Fatal accidents	Fatal accidents per 1,000 employes	Production in tons of 2,000 pounds	Production per fatal accident	Fatal accidents per 1,000,000 tons produced
1870,	35,600	211	5.93	14,172,004	67,166	14.89
1871,	37,488	210	5.60	15,532,252	73,963	13.52
1872,	44,745	223	4.98	15,567,973	69,811	14.32
1873,	48,199	264	5.48	21,001,521	79,551	12.57
1874,	53,402	231	4.33	19,930,240	86,278	11.59
1875,	69,966	238	3.40	23,402,646	98,330	10.17
1876,	70,474	228	3.24	23,440,666	102,810	9.73
1877,	66,842	194	2.90	24,727,213	127,460	7.85
1878,	63,964	187	2.92	20,900,966	111,770	8.95
1879,	68,847	262	3.81	31,036,600	118,460	8.44
Totals and percentages,	559,527	2,248	4.02	209,712,081	93,288	10.72
1880,	73,373	202	2.75	27,974,532	138,488	7.22
1881,	76,031	273	3.59	34,202,558	125,284	7.98
1882,	82,200	291	3.54	35,057,430	120,472	8.30
1883,	91,421	323	3.53	37,747,369	116,865	8.56
1884,	101,073	332	3.28	36,468,738	109,846	9.10
1885,	100,320	332	3.31	38,232,155	115,157	8.68
1886,	103,044	279	2.71	38,950,932	139,609	7.16
1887,	106,517	316	2.97	42,156,300	133,406	7.50
1888,	122,218	364	2.98	46,635,037	128,118	7.81
1889,	119,964	397	3.32	43,650,768	109,952	9.09
Totals and percentages,	976,161	3,109	3.18	381,075,819	122,572	8.16
1890,	119,919	378	3.15	44,986,286	119,011	8.40
1891,	123,308	428	3.47	49,701,322	116,125	8.61
1892,	130,300	418	3.21	51,226,978	122,553	8.16
1893,	138,069	456	3.30	52,841,110	115,880	8.63
1894,	139,939	446	3.19	50,966,920	114,276	8.75
1895,	143,706	421	2.93	56,948,756	135,270	7.39
1896,	150,088	502	3.34	53,843,250	107,257	9.32
1897,	149,557	423	2.83	52,581,036	124,305	8.04
1898,	142,420	411	2.89	52,812,675	128,498	7.78
1899,	140,604	461	3.28	60,518,331	131,276	7.62
Totals and percentages,	1,377,909	4,344	3.15	526,426,664	121,185	8.25
1900,	143,824	411	2.86	57,363,396	139,570	7.16
1901,	147,651	513	3.47	67,094,665	130,789	7.65
1902,	148,139	300	2.03	41,340,935	137,803	7.26
1903,	151,827	518	3.41	75,232,585	145,237	6.89
1904,	161,330	595	3.69	73,594,369	123,688	8.08
1905,	168,254	644	3.83	78,647,020	122,123	8.19
1906,	166,175	557	3.35	72,139,510	129,514	7.72
1907,	168,774	708	4.20	86,056,412	121,549	8.23
1908,	174,503	687	3.88	83,543,243	123,220	8.12
1909,	171,195	567	3.31	80,223,833	141,488	7.07
Totals and percentages,	1,601,672	5,491	3.42	715,235,946	130,256	7.68
1910,	168,175	601	3.57	83,683,994	139,241	7.18
1911,	173,338	699	4.03	90,917,176	130,067	7.69
1912,	175,098	601	3.43	84,426,869	140,477	7.12
1913,	175,310	624	3.56	91,626,964	146,838	6.81
Totals and percentages,	691,921	2,525	3.65	350,655,003	138,873	7.20
Grand totals and percentages,	5,207,190	17,717	3.40	2,183,105,513	123,221	8.12

ANTHRACITE DISTRICTS

FIRST DISTRICT

LACKAWANNA COUNTY

Carbondale, Pa., February 12, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my report as Inspector of Mines for the First Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

P. J. MOORE, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	13
Number of mines,	27
Number of mines in operation,	27
Number of tons of coal shipped to market,	3,389,702
Number of tons used at mines for steam and heat,	373,751
Number of tons sold to local trade and used by employes,	38,523
Number of tons produced,	3,801,976
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	6,357
Number of persons employed outside,	2,056
Number of fatal accidents inside of mines,	26
Number of fatal accidents outside,	2
Number of non-fatal accidents inside of mines,	83
Number of non-fatal accidents outside,	13
Number of tons of coal produced per fatal accident inside,	146,230
Number of tons produced per fatal accident outside,	1,900,988
Number of tons produced per fatal accident inside and outside,	135,785
Number of persons employed per fatal accident inside,	245
Number of persons employed per fatal accident outside,	1,028
Number of persons employed per fatal accident inside and outside,	300
Number of persons employed per non- fatal accident inside,	77
Number of persons employed per non-fatal accident outside,	158
Number of persons employed per non-fatal accident inside and outside,	88
Number of wives made widows,	17
Number of children made orphans,	58
Number of steam locomotives used inside of mines,	2
Number of steam locomotives used outside,	26
Number of compressed air locomotives used inside,	19
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	56
Number of electric motors used outside,	....
Number of fans in use,	29
Number of furnaces in use,	....
Number of gaseous mines in operation,	4
Number of non-gaseous mines in operation,	23
Number of new mines opened,	....
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Delaware and Hudson Company,	2,601,430
Sterrick Creek Coal Company,	449,628
Scranton Coal Company,	348,089
Hillside Coal and Iron Company,	185,975
Archbald Coal Company,	114,555
Humbert Coal Company,	77,508
West Mountain Coal Company,	20,011
Fall Brook Coal Company,	4,780
Total,	3,801,976

Production by Counties

Lackawanna,	3,801,976

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware and Hudson Co.,	11	2	13	67	9	76	236,494	38,827	4,241	1,328	5,569	386	664	63	148
Sterrick Creek Coal Co.,	3	......	3	6	1	7	149,876	74,938	812	180	992	271	....	135	180
Scranton Coal Co.,	5	......	5	4	......	4	69,618	87,022	651	265	916	130	....	163	....
Hillside Coal and Iron Co.,	3	......	3	1	......	1	61,992	185,975	212	105	317	71	....	212	....
Archbald Coal Co.,	2	......	2	2	2	4	57,277	57,277	230	80	310	115	....	115	40
Humbert Coal Co.,	1	......	1	2	1	3	77,508	38,754	152	76	228	152	....	76	76
West Mountain Coal Co.,	1	......	1	1	......	1	20,011	20,011	45	15	60	45	....	45	....
Miscellaneous Companies,	......	......	......	......	......	......	....	....	14	7	21	....	....	....	....
Totals and averages for district,	26	2	28	83	13	96	146,230	45,807	6,357	2,056	8,413	245	1,028	77	158

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of roof,	3	3	1	1	1	....	2	1	2	3	1	1	19	73.08
Mine cars,	....	1	....	1	....	....	....	....	....	....	....	....	2	7.69
Blasts, premature and otherwise,	....	....	1	1	1	....	....	....	....	....	....	....	3	11.53
Mules,	....	....	....	....	....	....	....	....	....	....	....	1	1	3.85
Struck by piece of rock,	....	1	....	....	....	....	....	....	....	....	....	....	1	3.85
Totals,	3	5	2	3	2	....	2	1	2	3	1	2	26	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	1	....	...	....	....	....	1	50.00
Struck by piece of iron,	1	....	....	....	....	....	....	....	....	....	....	....	1	50.00
Totals,	1	....	....	....	....	....	1	....	....	....	....	....	2	100.00
Grand totals inside and outside,	4	5	2	3	2	....	3	1	2	3	1	2	28	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	1	....	....	1	....	....	....	....	1	....	....	1	4	4.82
Falls of roof,	2	5	5	6	2	1	5	7	3	2	4	1	43	51.81
Mine cars,	....	2	3	....	2	1	2	3	1	....	2	....	16	19.28
Explosions of gas,	....	....	...	....	....	1	....	....	....	1	....	....	2	2.41
Explosions of powder and dynamite,	....	....	1	....	....	....	....	....	....	....	....	....	1	1.20
Blasts, premature and otherwise,	1	....	1	....	....	....	1	....	1	1	....	....	5	6.03
Electricity,	....	....	....	....	....	1	....	....	....	....	....	....	1	1.20
Mules,	....	....	....	....	1	....	....	....	....	....	1	1	3	3.63
Machinery,	....	....	....	....	....	....	....	....	....	1	....	....	1	1.20
By falling,	....	....	1	....	....	....	....	1	....	....	....	....	2	2.41
Struck by piece of rock,	....	....	1	....	....	....	....	....	....	....	....	....	1	1.20
Struck by piece of timber,	....	....	....	....	1	....	....	....	....	....	....	....	1	1.20
By iron rail,	...	....	1	....	....	....	....	....	....	....	....	....	1	1.20
By lever,	....	....	....	....	1	....	1	....	....	....	....	....	2	2.41
Totals,	4	7	13	7	7	4	9	11	6	5	7	3	83	100.00
Causes of Accidents **Outside**														
Cars,	1	....	2	....	....	1	1	....	....	2	....	....	7	53.85
Machinery,	....	....	....	....	....	....	....	....	....	....	....	1	1	7.69
Struck by piece of rock,	....	....	1	....	....	....	....	....	....	....	....	....	1	7.69
Struck by timber,	....	....	....	....	....	....	....	....	1	....	....	....	1	7.69
By falling,	....	....	....	....	....	....	1	1	....	....	....	....	2	15.39
Side of ditch caved on him,	....	....	....	....	....	1	....	....	....	....	....	....	1	7.69
Totals,	1	....	3	....	....	2	2	1	1	2	....	1	13	100.00
Grand totals inside and outside,	5	7	16	7	7	6	11	12	7	7	7	4	96	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	2	1	2	2	2	....	1	....	2	2	1	1	16
Miners' laborers,	....	2	....	...	....	....	1	1	....	1	....	....	5
Drivers and runners	....	1	....	....	....	....	....	....	....	....	....	1	2
Doorboys and helpers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Company men,	....	....	....	1	....	....	....	....	....	....	....	...	1
Engineers,	....	1	....	....	....	....	....	....	....	....	....	....	1
Totals,	3	5	2	3	2	....	2	1	2	3	1	2	26
Outside													
Laborers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Drivers,	....	....	....	....	....	....	1	....	....	....	....	....	1
Totals,	1	....	....	....	....	....	1	....	....	....	....	....	2
Grand totals inside and outside,	4	5	2	3	2	....	3	1	2	3	1	2	8

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	4	2	6	5	2	1	4	4	2	3	1	1	35
Miners' laborers,	....	3	3	2	1	....	5	4	3	2	3	1	27
Drivers and runners,	....	1	3	....	3	2	....	2	1	....	1	1	14
Company men,	....	....	....	....	....	....	....	1	...	....	1	....	2
Engineers,	....	....	1	....	....	1	....	....	....	....	1	....	3
Brakemen,	....	1	....	....	1	....	....	....	....	....	....	....	2
Totals,	4	7	13	7	7	4	9	11	6	5	7	3	83
Outside													
Blacksmiths and carpenters,	....	....	....	....	....	....	....	....	1	....	....	....	1
Runners,	....	....	....	....	....	....	....	....	....	1	....	....	1
Watchmen,	....	....	....	....	....	....	1	....	....	....	....	....	1
Brakemen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Laborers,	1	....	2	....	....	2	1	1	....	1	....	1	9
Totals,	1	....	3	....	....	2	2	1	1	2	....	1	13
Grand totals inside and outside,	5	7	16	7	7	6	11	12	7	7	7	4	96

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	2	2	....	....	....	....	1	....	....	....	....	1	6
Irish,	....	...	1	1	....	....	....	....	....	....	....	....	2
German,	....	1	....	...	....	....	....	....	....	....	1	....	2
Polish,	1	1	....	....	....	....	1	....	....	1	....	....	4
Italian,	1	1	....	....	1	....	1	....	2	2	....	....	8
Slavonian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Austrian,	....	....	. ..	1	....	....	....	1	....	....	....	1	3
Russian,	....	....	....	1	1	....	....	....	....	....	....	....	2
Totals,	4	5	2	3	2	....	3	1	2	3	1	2	28

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	2	2	5	3	1	2	1	4	2	2	2	1	27
English,	. ..	....	2	2	2	1	....	....	....	1	1	....	9
Welsh,	1	....	1	....	1	....	1	1	....	....	....	....	5
Scotch,	....	....	....	...	....	1	....	....	....	....	....	....	1
Irish,	..	....	1	..	1	....	1	1	....	1	....	1	6
German,	.	....	....	.. .	.. .	2	....	....	....	....	....	....	2
Polish,	...	2	4	...	2	....	4	1	2	....	3	1	19
Italian,	1	3	2	....	...	....	2	....	1	1	....	....	10
Slavonian,	...	...	....	....	....	....	1	1	....	....	....	....	2
Austrian,	.	....	....	1	..	....	....	1	....	....	....	1	3
Russian,	1	....	1	1	..	...	1	3	2	2	1	....	12
Totals,		7	16	7	6	6	11	12	7	7	7	4	96

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware and Hudson Co.																
Olyphant No. 2 Colliery:																
Grassy Island No. 2, ...	Shaft, ...	Gaseous, ..	Fan, ...	28	7.5	8.	60	2	Guibal, ..	Steam, ...		9	220,000	200,000	230,000	700
Grassy Island No. 2, ...	Slope, ...			20	7	7	70	1				8	185,000	175,000	190,000	598
Miles, ...	Slope, ...			20	5	6	90	2				4	85,100	78,900	88,900	145
Coal Brook Colliery:																
Coal Brook No. 1, ...	Tunnel, .	Non-gas., .	Fan, ...	17	4.25	4.25	75	1.7	Guibal, ..	Electricity, .		2	30,000	25,000	32,000	100
Coal Brook No. 1, Grassy	Drift, ...			17	4.25	4.25	90	1.2				2	37,000	35,000	31,000	118
Coal Brook No. 2, Grassy	Tunnel, .			17	4.25	4.25	75	1.5				3	60,000	55,000	68,000	175
Coal Brook No. 3, Grassy	Tunnel, .			12	4	4	90	.5				2	50,000	45,000	55,000	165
Coal Brook, Wilces, ...	Tunnel, .			20	5	5	75	1.5				4	74,000	65,000	80,000	191
Coal Brook, Wilson Creek	Tunnel, .			20	5	6	75	1.2				4	85,000	78,000	90,000	300
Coal Brook No. 1, Pattens	Tunnel, .			10	2.5	2.5	100	.5				2	50,000	45,000	55,000	81
Jermyn Colliery:																
Jermyn, ...	Shaft, ...	Non-gas., .	3 Fans. ..	20	5	6	75	1.5	Guibal, .	Steam, ...		13	225,000	175,000	254,000	653
				17	5	6	75	.9		Steam, ...						
				17	5	6	120	1.2		Electricity, .						
Powderly Colliery:																
Powderly, ...	Tunnel, .	Non-gas., .	Natural,	......	......	......	......	......	....	....	..	4	50,000	45,000	58,000	220
Powderly, ...	Slope, ...		Fan, ...	17	4	4	80	1.2	Guibal, ...	Steam, ...	..	1	12,000	10,000	14,000	56
Powderly No. 1, ...	Tunnel, .		Fan, ...	10	4	4	140	1	Guibal, ...	Electricity, .	..	4	80,000	75,000	90,000	267
Powderly No. 1, ...	Slope, ...		Fan, ...	10	8.5	2.5	140	1	Buffalo, ...	Electricity, .	..	2	20,000	15,000	21,000	70

Gravity Slope Colliery:															
No. 11,	Tunnel,	Non-gas.,	Fan,	17	5	5	90	1.6	Guibal,	Steam,		4	75,000	60,000	80,000	259
No. 6,	Tunnel,			10	8	3	100	.8				2	45,000	40,000	48,000	155
Gravity Slope,	Slope,			20	5	6	60	.5				2	40,000	35,000	45,000	142
Sterrick Creek Coal Co.															
Sterrick Creek Colliery:															
Sterrick Creek,	Drift,	Non-gas.,	Fan,	20	4.5	4.5	70	1.3	Guibal,	Steam,		2	42,000	38,000	44,000	185
Sterrick Creek,	Shaft,	Gaseous,	2 Fans,	25	5	5.5	65	.5				4	80,000	75,000	82,000	377
				10	3.5	3.5	185	.8				4	67,000	50,000	75,000	250
Scranton Coal Co.															
Raymond Colliery:															
Raymond No. 3,	Slope,	Non-gas.,	Fan,	14	6	5	100	1.2	Guibal,	Steam,	..	4	95,000	90,000	100,000	400
Raymond No. 2,	Slope,	Non-gas.,	Fan,	18	5	5	75	.7	Guibal,	Steam,	..	2	25,000	24,000	28,000	119
Riverside Colliery:															
Riverside,	Shaft,	Gaseous,	Fan.	20	4	6	78	.4	Guibal,	Steam,	..	3	75,000	60,000	78,000	132
Hillside Coal and Iron Co.															
Erie Colliery:															
Erie,	Shaft,	Non-gas.,	Fan,	18	5	5	70	.1	Guibal,	Steam,	..	5	75,000	60,000	80,000	212
Archibald Coal Co.															
Tappans Colliery:															
Tappans,	Slope,	Non-gas.,	2 Fans,	16	5	6	72	.5	Guibal,	Steam,		8	125,000	100,000	130,000	230
				12	3	3	80	.5								
Humbert Coal Co.															
Sunnyside Colliery:															
Sunnyside,	Tunnel,	Non-gas.,	Fan,	6	3	4	90	.6	Guibal,	Steam,	..	2	40,000	30,000	42,000	152
West Mountain Coal Co.															
West Mountain Colliery:															
West Mountain,	Drift,	Non-gas.,	Fan,	12	3	3	75	.7	Guibal,	Steam,	..	2	20,000	16,000	24,000	45
Fall Brook Coal Co.															
Murrins Colliery:															
Murrins,	Drift,	Non-gas.,	Natural,	......	......	......	......	......	....	....	..	1	3,500	3,000	3,600	14

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Delaware and Hudson Co. Olyphant, Coal Brook, Jermyn, Powderly, Gravity Slope, Jermyn Washery,	Lackawanna,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	Delaware and Hudson
Sterrick Creek Coal Co. Sterrick Creek,	Lackawanna,	Frank Hemelright,	Scranton,	Joseph Reese,	Olyphant,	Erie
Scranton Coal Co. Raymond, Riverside,	Lackawanna,	William L. Allen,	Peckville,	John J. Aitken,	Priceburg,	N. Y. O. and W.
Hillside Coal and Iron Co. Erie,	Lackawanna,	W. W. Inglis,	Scranton,	J. P. Jennings,	Moosic,	Erie
Archbald Coal Co. Tappans,	Lackawanna,	James H. Hughes,	Wilkes-Barre,	Richard Howells,	Archbald,	Delaware and Hudson
Humbert Coal Co. Sunnyside,	Lackawanna,	W. C. Humbert,	Jessup,			Erie
West Mountain Coal Co. West Mountain,	Lackawanna,	John A. Komara,	Jermyn,	Thomas Kennedy,	Jermyn,	N. Y. O. and W.
Fall Brook Coal Co. Murrins,	Lackawanna,	Frank Murrin,	Carbondale,			Local sales

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
*Delaware and Hudson Co.													
Olyphant,	Lackawanna,	721,654	102,880	13,396	837,930	281	1,701	1	21	1,009,950	16,173	3,750	102
Coal Brook,		631,332	45,908	....	677,240	284	1,461	3	20	678,800	42,076	450	77
Jermyn,		354,778	32,302	4,911	391,991	271	799	......	9	325,100	27,341	4	44
Powderly,		341,137	25,404	....	366,541	251	828	3	14	208,850	30,120	6,875	28
Gravity Slope,		276,578	44,348	3,720	324,646	269	780	6	12	198,375	149,881	13,550	43
		2,325,479	250,842	22,027	2,598,348	......	5,569	13	76	2,421,075	265,591	24,629	294
Washeries:													
Jermyn,	Lackawanna,	....	3,082	....	3,082	†	†	......	......	....	....	....	......
Totals,	....	2,325,479	253,924	22,027	2,601,430	......	5,569	13	76	2,421,075	265,591	24,629	294
Sterrick Creek Coal Co.													
Sterrick Creek,	Lackawanna,	419,485	25,734	4,409	449,628	257	992	3	7	295,725	238,600	....	111
Scranton Coal Co.													
Raymond,	Lackawanna,	225,634	25,886	1,522	253,042	233	709	4	2	190,125	165,550	....	64
Riverside,		64,215	30,295	537	95,047	205	207	1	2	58,750	5,600	....	29
Totals,	....	289,849	56,181	2,059	348,089	......	916	5	4	248,875	171,150	....	93
Hillside Coal and Iron Co.													
Erie,	Lackawanna,	163,937	21,270	768	185,975	183	317	3	1	111,500	3,183	2,250	22

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*Inside workings under Delaware and Hudson Co. Outside workings under Hudson Co.

†Employes and number of days worked grouped with Jermyn Colliery.

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Archbald Coal Co. Tappans,	Lackawanna,	108,086	6,122	347	114,555	219	310	2	4	92,125	83,250	....	24
Humbert Coal Co. Sunnyside,	Lackawanna,	68,058	9,125	325	77,508	214	228	1	3	66,825	19,114	....	18
West Mountain Coal Co. West Mountain,	Lackawanna,	13,390	1,095	5,526	20,011	271	60	1	1	30,000	3,150	....	17
Fall Brook Coal Co. Murrins,	Lackawanna,	1,418	300	3,062	4,780	1[illegible]7	21	......	......	250	100	....	4
Grand totals,	....	3,389,702	373,751	38,523	3,801,976	......	8,413	28	96	3,266,375	784,138	26,879	583

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Delaware and Hudson Co.,	Lackawanna, ..	42	1,134	41	8,585	9,719	17	19	49	163	11,619	33	53,450	12,000	17	8
Sterrick Creek Coal Co.,		......	......	8	1,800	1,800	4	......	......	26	2,520	3	2,700	2,200	2	2
Scranton Coal Co.,		......	......	18	2,200	2,200	3	......	2	30	2,392	11	7,150	5,509	2	2
Hillside Coal and Iron Co.,		......	......	16	1,600	1,600	......	......	5	23	1,595	2	1,732	1,650	2	2
Archbald Coal Co.,		......	......	4	400	400	2	......	......	11	686	1	1,250	800	......	......
Humbert Coal Co.,		......	......	3	240	240	2	......	......	9	250	......	......	......	......	......
West Mountain Coal Co.,		......	......	2	300	300	......	......	......	2	145	......	......	......	......	......
Fall Brook Coal Co.,		......	......	1	150	150	......	......	......	1	75	......	......	......	......	......
Totals,	....	42	1,134	93	15,275	16,409	28	19	56	265	19,282	50	66,282	22,159	23	14

TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Delaware and Hudson Co.,	Lackawanna, ...	6	16	5	1,345	1,655	476	130	16	435	157	4,241	...	10	53	161	74	299	13	718	1,328	5,569
Sterrick Creek Coal Co.,		2	3	5	267	285	94	21	3	44	88	812	1	1	10	16	....	48	3	101	180	992
Scranton Coal Co.,		2	4	....	263	202	104	17	11	....	48	651	...	2	16	40	52	44	2	109	265	916
Hillside Coal and Iron Co.,		1	2	....	63	68	12	4	1	46	15	212	...	1	4	7	16	2	1	74	105	317
Archbald Coal Co.,		1	2	....	90	80	30	7	1	19	....	230	1	1	7	11	12	8	1	39	80	310
Humbert Coal Co.,		1	....	....	61	58	23	1	....	8	....	152	1	1	4	11	22	8	2	27	76	228
West Mountain Coal Co.,		1	....	....	17	18	5	2	....	2	....	45	1	1	2	2	6	....	1	2	15	60
Fall Brook Coal Co.,		1	....	....	5	5	3	....	....	....	....	14	...	1	....	1	2	....	1	2	7	21
Totals,		15	27	10	2,111	2,371	747	182	32	554	308	6,357	4	18	96	249	184	409	24	1,072	2,056	8,413

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Delaware and Hudson Co.,	Lackawanna,	24	22	22	22	23	20	23	24	23	24	21	23	271
Sterrick Creek Coal Co.,		25	24	26	22	11	21	23	22	20	20	20	23	257
Scranton Coal Co.,		19	18	20	18	19	19	17	19	18	19	16	17	219
Hillside Coal and Iron Co.,		17	16	17	16	15	14	15	16	14	15	13	15	183
Archbald Coal Co.,		21	20	20	23	22	19	9	......	21	21	21	22	219
Humbert Coal Co.,		23	21	6	13	14	17	18	16	20	24	21	21	214
West Mountain Coal Co.,		26	25	24	19	22	22	19	22	21	23	23	25	271
Fall Brook Coal Co.,		24	22	14	18	14	......	6	......	18	23	21	24	187

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	3	William Healy, ...	American,	Miner, ...	40	M.	1	2	Coal Brook, ...	Lackawanna,	Fatally injured by fall of roof while barring out some loose coal at face of chamber.
	7	Fred Gambo, ...	Italian, ...	Door boy, ...	16	S.	....	....	Raymond, ...		Instantly killed by fall of roof at face of miner's working place. He stepped into the face where the miner's machine was set up and commenced turning the machine when the roof fell on him.
		Felix Coapuck, ...	Polish, ...	Miner, ...	40	M.	1	5	Raymond, ...		Killed by fall of roof at face of working place while shoveling coal back to car.
	20	Peter Kane, ...	American,	Laborer, ...	17	S.	....	....	Powderly, ...		Fatally injured by piece of iron thrown from third floor of breaker, striking him on head. Outside.
Feb.	1	Brenslow Chadwock, .	Polish, ...	Laborer, ...	30	S.	....	....	Powderly, ...		Fatally injured by fall of roof while removing some loose rock near pillar where he was working.
	3	Louis Touch, ...	Italian, ...	Laborer, ...	53	M.	1	7	Sunnyside, ...		Fatally injured by fall of roof while barring out a shot at face of chamber.
	5	Ray Heckman, ...	American,	Driver, ...	18	S.	....	....	Riverside, ...		Fatally injured by fall of rock from the gob.
	18	Alfred Howe, ...	American,	Engineer, ...	21	S.	...	...	Coal Brook, ...		Fatally injured by being crushed between motor and pillar along heading road.
	19	Cornell Ullrich, ...	German, ..	Miner, ...	50	M.	1	4	Gravity Slope, ..		Fatally injured at face of chamber by fall of roof while throwing back rock.
March	13	Michael Madden, ...	Irish, ...	Miner, ...	42	S.	....	....	Powderly, ...		Fatally injured by flying coals from blast he was firing in face of chamber.
	26	John Corinsky, ...	Slavonian,	Miner, ...	30	M.	1	3	Sterrick Creek, .		Fatally injured by fall of roof at face of pillar while barring out a shot.
April	10	Roman Powl, ...	Austrian, .	Miner, ...	34	M.	1	2	Erie, ...		Fatally injured by flying coals from blast he fired in chamber.
	12	Paul Draggon, ...	Russian, ..	Miner, ...	40	M.	1	7	Erie, ...		Fatally injured on heading road by a fall of roof that he was pulling down to make it safe.
	25	John Moran, ...	Irish, ...	Company man,	45	S.	....	....	Tappans, ...		Fatally injured by trip of loaded mine cars along heading road.

May	23	Tony Gillardie, ...	Italian, ...	Miner, ...	38	M.	1	5	Tappans, ...	Lackawanna,	Fatally injured by fall of roof while barring out a shot at face of pillar he was removing.
	29	Michael Klonka, ...	Russian, ..	Miner, ...	52	M.	1	3	Erie, ...		Instantly killed by flying coals from blast he was firing in chamber.
July	1	William Wallian, ...	American,	Driver, ...	20	S.	....	....	Gravity Slope, ..		Fatally injured by mine cars on top of plane. He was employed as a driver inside the mine and was on his way home when the accident occurred. Outside.
	2	Anthony Orlando, ...	Italian, ...	Laborer, ...	23	S.	....	....	Gravity Slope, ..		Fatally injured by fall of roof at face of chamber while loading car.
	15	Stanley Chimachek, ..	Polish, ...	Miner, ...	45	M.	1	5	West Mountain, .		Fatally injured by fall of roof at face of chamber.
Aug.	28	Michael Karmovick, .	Austrian, .	Laborer, ...	19	M.	1	1	Raymond, ...		Fatally injured by fall of roof at face of chamber while shoveling coal.
Sept.	10	Andrew Nattelena, ...	Italian, ...	Miner, ...	40	S.	....	....	Sterrick Creek, .		Fatally injured by fall of roof at face of pillar he was removing.
	26	Joseph Vogarie, ...	Italian, ...	Miner, ...	46	M.	1	1	Sterrick Creek, .		Fatally injured by fall of roof while barring some loose coal from pillar he was removing.
Oct.	7	Joseph Poperilla, ...	Italian, ...	Miner, ...	43	M.	1	5	Raymond, ...		Fatally injured by fall of roof at face of pillar he was removing.
	8	Edward Yackievoicz, .	Polish, ...	Miner, ...	43	M.	1	3	Gravity Slope, ..		Fatally injured by fall of roof at face of chamber while standing prop.
	21	Samuel Laface, ...	Italian, ...	Laborer, ...	26	M.	1	....	Gravity Slope, ..		Fatally injured by fall of roof near face of chamber. The piece was bell shaped and hard to detect.
Nov.	6	John Daubner, ...	German, ..	Miner, ...	72	M.	1	....	Olyphant, ...		Fatally injured by fall of bell roof near face of chamber.
Dec.	3	Alex Brocks, ...	Austrian, .	Miner, ...	40	M.	1	5	Gravity Slope, ..		Fatally injured by fall of roof at face of chamber while drilling a hole.
	30	John Zizniek, ...	American,	Runner, ...	18	S	....	....	Coal Brook, ...		Fatally injured by kick from mule.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 20	Joseph Conlin,	American,	Laborer,	21	S.	Powderly,	Lackawanna,	Leg bruised and chin cut by car on rock dump tipping over on him. Outside.
25	Thomas Baldwin,	American,	Miner,	23	M.	Coal Brook,		Back bruised by fall of roof while drilling a hole at face of chamber.
27	Alford Cutter,	Welsh,	Miner,	37	S.	Olyphant,		Lacerations of scalp by flying coals from blast.
	Frank Tomain,	Italian,	Miner,	44	M.	Gravity Slope,		Foot bruised seriously by piece of coal falling on him while barring out a shot at face of chamber.
28	Louis Stanskefsky,	Russian,	Miner,	35	M.	West Mountain,		Leg fractured by piece of roof falling on him while barring some loose coal at face of chamber.
Feb. 3	Joseph Cound,	Italian,	Laborer,	38	M.	Sunnyside,		Both legs and some ribs fractured by fall of roof.
10	Peter Coscowskie,	Polish,	Miner,	48	M.	Tappans,		Back injured seriously by fall of roof at face of chamber while drilling a hole.
17	Michael Munley,	American,	Driver,	17	S.	Coal Brook,		Arm bruised between car and prop.
18	William Updyke,	American,	Brakeman,	18	S.	Coal Brook,		Bruised about the hips and injured internally by being squeezed between motor and pillar along heading road.
18	Andrew Danengo,	Italian,	Miner,	23	S.	Riverside,		Hand badly fractured by piece of roof falling on him while barring it down in face of chamber.
22	Rego Nardella,	Italian,	Laborer,	23	S.	Sterrick Creek,		Back and hips injured by fall of roof at face of chamber while shoveling coal.
24	Ignats Garbulavitch,	Polish,	Laborer,	23	S.	Olyphant,		Hip injured by piece of roof falling on him while standing prop in cross-cut.
March 3	George Carey,	English,	Driver,	19	S.	Sterrick Creek,		Lacerations of scalp and fractured leg by falling under a trip of empty mine cars.
4	Joseph Wall,	American,	Brakeman,	17	S.	Powderly,		Small finger on right hand cut off while uncoupling mine cars in motion. Outside.
5	James Baldwin,	English,	Motor engineer,	29	S.	Coal Brook,		Left arm burned by an electric wire.
	Joseph Moncose,	Italian,	Laborer,	28	M.	Powderly,		Left leg fractured by piece of roof falling on him while loading car at face of chamber.

March	7	Samuel Harvey,	American,	Miner,	30	M.	Jermyn,	Lackawanna,	Large toe broken by fall of rock.
	12	Victor Brosky,	Polish,	Laborer,	34	S.	Gravity Slope,		Cut on head and bruised about body by fall of roof in face of chamber he was visiting.
		Michael McFadden,	Polish,	Miner,	55	M.	Powderly,		Three toes fractured by fall of roof at face of chamber while barring it down.
		Anthony Tolerico,	Italian,	Laborer,	42	M.	Coal Brook,		Leg fractured above knee between cars. Outside.
	14	Adam Corey,	American,	Driver,	18	S.	Coal Brook,		Collar bone fractured and left leg bruised between car and prop.
	17	John H. Naizley,	American,	Laborer,	19	S.	Jermyn,		Arm fractured by piece of rock falling off car. Outside.
		Joseph Gagety,	Polish,	Miner,	30	M.	Raymond,		Scalp slightly fractured by flying coal from shot.
	21	Thomas Sanderson,	American,	Driver,	18	S.	Olyphant,		Arm fractured by falling on a rail.
		Michael Eshonsky,	Polish,	Miner,	29	S.	Powderly,		Leg burned by Atlas powder that became ignited while carrying it in his hip pocket.
	26	Edward Lewis,	Welsh,	Miner,	40	S.	Olyphant,		Leg fractured by fall of roof at face of heading.
	27	Michael Basesha,	Russian,	Laborer,	25	S.	Tappans,		Left leg fractured by mine cars when they jumped the track.
	31	William Welsh,	Irish,	Miner,	40	M.	Coal Brook,		Head bruised and injured internally by fall of roof at face of chamber while standing a set of timber.
April	9	Martin Roach,	American,	Miner,	27	M.	Gravity Slope,		Head injured and one hand badly lacerated by fall of roof.
	9	Joseph Kearney,	American,	Laborer,	29	S.	Gravity Slope,		Left arm fractured by fall of roof in heading.
		Barton Biotek,	Austrian,	Laborer,	19	S.	Jermyn,		Thigh fractured and scalp injured by fall of roof.
		William Skinn,	English,	Miner,	48	M.	Jermyn,		Head and back injured by fall of roof in face of heading.
	16	John Howarth,	English,	Miner,	40	M.	Coal Brook,		Right foot fractured and back bruised by fall of top coal at face of chamber while drilling a hole.
	26	Wasyl Badnosh,	Russian,	Miner,	39	M.	Olyphant,		Back badly injured by fall of roof at face of chamber while shoveling coal.
	29	Frederick Henry,	American,	Miner,	33	M.	Coal Brook,		Left ankle fractured by fall of roof at face of chamber while shoveling coal.
May	5	Lawrence Ostrososky,	Polish,	Laborer,	35	M.	Jermyn,		Second finger severed by a lever.
	13	Frank Smith,	American,	Driver,	16	S.	Gravity Slope,		Arm fractured by being kicked by mule.
	16	Duffy Yanceski,	Polish,	Runner,	22	S.	Riverside,		Left leg fractured by derailed mine car.
	21	Cathbert Chesterfield,	English,	Miner,	39	S.	Jermyn,		Seriously injured about the body by fall of roof at face of chamber while barring out a shot.
	26	Mathew Mullen,	Irish,	Driver,	16	S.	Olyphant,		Bruised about the head and face, three teeth knocked out and nose broken by falling timber.
	28	David Craven,	English,	Miner,	30	M.	Olyphant,		Leg fractured by fall of roof while working out a blast at face of chamber.
	28	Alvin Evans,	Welsh,	Motor brakeman,	18	S.	Olyphant,		Hand seriously injured by being caught between the motor and a loaded car while putting sand on track along heading road.

TABLE 5.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June	4	Henry Schwelder, ...	German, ...	Laborer, ...	60	S.	Coal Brook, ...	Lackawanna, ..	Ankle fractured while digging ditch. A portion of the side fell on him. Outside.
	6	Herbert Lake, ...	English, ...	Engineer, ...	31	M.	Olyphant, ...		Burned about the face and hands by gas.
	9	Louis Hilling, ...	American, ..	Runner, ...	18	S.	Olyphant, ...		Two fingers fractured on left hand by cage at foot of shaft.
	14	Andrew Thompson, ..	Scotch, ...	Driver, ...	60	M.	Coal Brook, ...		Burned about the face and hands by electricity.
	16	Harry Deckie, ...	German, ...	Laborer, ...	21	S.	Tappans, ...		Fractured leg by striking it against iron plate. Outside.
	27	Martin Carden, ...	American, ..	Miner, ...	44	M.	Coal Brook, ...		Hand bruised and finger broken by fall of roof at face of chamber while drilling hole.
July	7	Joseph Marron, ...	Polish, ...	Laborer, ...	38	M.	Coal Brook, ...		Two fingers broken while coupling motor to car.
	8	Joseph Maren, ...	American, ..	Miner, ...	35	M.	Gravity Slope, ...		Toe fractured by T iron rail falling on his foot.
		Michael Marion, ...	Irish, ...	Laborer, ...	66	M.	Gravity Slope, ...		Injured about body between cars. Outside.
	9	Felix Forsattle, ...	Italian, ...	Miner, ...	26	M.	Sunnyside, ...		Back bruised by fall of roof while barring it down.
	16	James Cresco, ...	Italian, ...	Laborer, ...	24	S.	Coal Brook, ...		Head and back bruised by fall of roof while loading car at face of chamber.
	17	Stanley Mazure, ...	Polish, ...	Laborer, ...	33	S.	Olyphant, ...		Leg fractured by being bumped between empty cars at foot of plane.
	23	Frederick Fedorchak,.	Russian, ...	Laborer, ...	20	M.	Olyphant, ...		Skull fractured by flying coal from blast fired in next chamber.
	24	Michael Peenwasky, .	Polish, ...	Laborer, ...	38	M.	Jermyn, ...		Ankle fractured by fall of roof while assisting the miner to replace a prop.
	26	Thomas Franock, ...	Slavonian, .	Miner, ...	45	M.	Sterrick Creek, ...		Thigh fractured by fall of roof while picking out loose coal from a shot.
	28	Charles Fossest, ...	Polish, ...	Miner, ...	35	M.	Powderly, ...		Ankle fractured by fall of roof at face of pillar he was removing.
		Bert Whitman, ...	English, ...	Watchman, ...	44	M.	Olyphant, ...		Head injured, rib broken and wrist sprained by falling off plank in fire room. Outside.

Aug.	4	John Sweeney,	American,	Miner,	55	M.	Coal Brook,	Lackawanna,	Leg injured by fall of roof at face of chamber.
	7	Simon Mashura,	Polish,	Miner,	50	M.	Olyphant,		Hip dislocated by fall of roof at face of chamber.
	11	Andrew Kroeti,	Russian,	Laborer,	18	S.	Erie,		Leg fractured by fall of roof while shoveling coal back to car.
	14	John Wasneechuk,	Russian,	Laborer,	42	M.	Olyphant,		Head and back injured by fall of roof at face of heading.
	15	Thomas Munley,	American,	Company man,	45	S.	Raymond,		Leg injured by mine cars along heading road.
		John Walsh,	Irish,	Laborer,	55	M.	Tappans,		Leg fractured by falling on his way home. Outside.
	16	John Monsock,	Slavonian,	Miner,	42	M.	Sterrick Creek,		Head and back injured by fall of roof at face of chamber while driving cross-cut.
		John Loftus,	American,	Driver,	18	S.	Coal Brook,		Leg fractured by falling from mine car.
	21	Thomas Parry,	Welsh,	Runner,	21	S.	Olyphant,		Body and leg injured by mine car while unhitching the tail rope.
	23	Martin Andrews,	Austrian,	Miner,	40	M.	Powderly,		Head and body injured by fall of roof at face of pillar he was removing.
	25	William Brewyuskie,	Russian,	Laborer,	33	S.	Gravity Slope,		Side injured by falling while trying to escape a piece of falling coal.
	29	Frank Jewiskie,	American,	Laborer,	22	S.	Gravity Slope,		Ribs fractured by fall of roof while he was assisting his miner to pull it down.
Sept.	6	Louis Plunskie,	Polish,	Laborer,	22	S.	Powderly,		Leg fractured by flying coal from blast fired in face of heading.
	9	Adam Snyder,	American,	Carpenter,	73	M.	Sterrick Creek,		Skull fractured by piece of wood flying from a circular saw in carpenter shop. Outside.
	10	Harry Sebear,	Russian,	Miner,	27	M.	Olyphant,		Compound fracture of leg by fall of roof at face of chamber while replacing a prop.
	17	John Ancorich,	Russian,	Laborer,	33	M.	Jermyn,		Head injured and shoulder dislocated by fall of top coal while assisting the miner to replace a prop.
	19	Samuel Graggo,	Italian,	Runner,	22	S.	Coal Brook,		Head and back injured by being thrown off a car coming out of chamber.
	25	Lewis Domananskie,	Polish,	Miner,	50	M.	Gravity Slope,		Foot lacerated by fall of roof.
	30	Frank Maren,	American,	Laborer,	22	S.	Gravity Slope,		Foot lacerated by fall of roof.
Oct.	11	William Brennan,	Irish,	Miner,	50	M.	Sterrick Creek,		Burned about the face and hands by gas.
	16	David Evans,	American,	Laborer,	21	S.	Powderly,		Hand badly injured by being caught in pinion wheel of electric pump.
	17	Simon Shareryk,	Russian,	Laborer,	39	S.	Olyphant,		Foot fractured by fall of roof at face of chamber.
	21	Nicholas Ferrett,	Italian,	Miner,	37	M.	Sterrick Creek,		Finger cut off by piece of coal from a shot he had fired.
	27	Anthony Mullen,	American,	Laborer,	17	S.	Gravity Slope,		Hand injured seriously by wheel of car passing over it when he fell. Outside.
		John Polowsky,	Russian,	Miner,	53	M.	Olyphant,		Compound fracture of left arm and bruised about the head by fall of roof at face of chamber.
		William Webb,	English,	Runner,	22	S.	Sunnyside,		Injured seriously about the body by falling under mine cars. Outside.
Nov.	3	Joseph Moscovice,	Polish,	Company man,	26	M.	Jermyn,		Thumb cut off at first joint while coupling cars.

TABLE 5.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Nov	18	Charles Fay,	American,	Driver,	25	M.	Powderly,	Lackawanna,	Collar bone fractured by mule throwing him against pillar.
	20	James Manley,	American,	Motor engineer,	19	S.	Powderly,		Right hand badly lacerated by being caught between cars he was trying to couple.
		James Curran,	English,	Miner,	32	M.	Olyphant,		Leg fractured by fall of roof in face of chamber while standing prop under it.
	22	Stephen Nycolick,	Russian,	Laborer,	30	M.	Coal Brook,		Four toes on right foot fractured by fall of roof at face of chamber while shoveling coal
	26	John Yamen,	Polish,	Laborer,	35	S.	Powderly,		Arm fractured by fall of roof at face of chamber.
	28	Anthony Dolosky,	Polish,	Laborer,	24	S.	Coal Brook,		Head and back injured by fall of roof at face of chamber while barring down some loose pieces.
Dec.	3	Patrick Cuff,	Irish,	Miner,	49	M.	Coal Brook,		Three toes fractured by fall of roof at face of chamber.
	12	Michael Youshock,	Austrian,	Laborer,	43	M.	Olyphant,		Arm fractured and face and body injured by being caught in revolving machinery in boiler house. Outside.
	15	James A. Cummings,	American,	Driver,	18	S.	Powderly,		Arm fractured by kick from mule he was driving.
	20	Frank Venesky,	Polish,	Laborer,	36	M.	Powderly,		Ankle fractured by fall of coal while trying to bar it down.

CONDITION OF COLLIERIES

DELAWARE AND HUDSON COMPANY

Olyphant.—Ventilation, drainage and general condition good.

Coal Brook.—Ventilation, drainage and general condition good.

Jermyn.—Ventilation, roads and drainage fair; condition as to safety good.

Powderly.—Ventilation, drainage and general condition good.

Gravity Slope.—Ventilation, drainage and general condition good.

STERRICK CREEK COAL COMPANY

Sterrick Creek.—Ventilation fair; drainage and general condition good.

SCRANTON COAL COMPANY

Raymond.—Ventilation, roads and drainage good; condition as to safety good.

Riverside.—Ventilation, roads and drainage fair; condition as to safety good.

HILLSIDE COAL AND IRON COMPANY

Erie.—Ventilation, roads and drainage fair; condition as to safety good.

ARCHBALD COAL COMPANY

Tappans.—Ventilation, roads and drainage fair; condition as to safety good.

HUMBERT COAL COMPANY

Sunnyside.—Ventilation, roads and drainage fair; condition as to safety good.

WEST MOUNTAIN COAL COMPANY

West Mountain.—Ventilation good; roads and drainage fair; condition as to safety good.

FALL BROOK COAL COMPANY

Murrins.—Ventilation, roads and drainage fair; condition as to safety good.

IMPROVEMENTS

DELAWARE AND HUDSON COMPANY

Olyphant Colliery.—Rock plane driven 120 feet from the Diamond vein to the Four foot vein. Rock tunnel driven 100 feet from the Top Clark to the Bottom Clark, together with rock return airway 100 feet. The timbers at the Rock vein landing were replaced by steel "I" beams and concrete a distance of 400 feet. Car haul 140 feet long completed in the Clark vein to handle empty cars from shaft. Completed sinking No. 1 shaft from the New County to the Dunmore vein, connections being made with the workings in the several veins intercepted. Ladders were placed in the manway compartment of No. 1 shaft from Dunmore to Clark vein. Installed a Jeffrey steel fan, 20 by 7 feet and built concrete fan drift connecting with upcast compartment of No. 4 shaft. The fan is driven by an 18 by 30 inch Hamilton Corliss engine, single. Completed reinforced concrete partition wall between the upcast and downcast compartments of No. 4 shaft, a distance of 680 feet. Commenced to build new wash house near No. 2 shaft to contain shower baths and 200 lockers.

Coal Brook Colliery.—Installed two 6.5-ton electric locomotives with drum attachment for hauling coal and a 10-foot steel Buffalo fan for ventilating No. 6 tunnel. Built an addition to the boiler house 51 by 56 feet. Installed a General Electric 1,000 K. W. generator, driven by a pair of engines, 24 by 44 by 22 inches. Installed a new engine house and a 20 by 24 inch engine for No. 1 haulage and a 21-ton locomotive for hauling coal from the mines to the breaker. No. 22 plane was driven 2,000 feet.

Powderly Colliery.—No. 1. Installed a 6½-ton electric locomotive with drum attachment for hauling coal inside. No. 9 plane was equipped with a 20 H. S. P. electric house. Powderly tunnel driven from the surface to the Clark vein, a distance of 600 feet.

Jermyn Colliery.—Installed a General Electric 25 K. W. generator, driven by a 22 by 22 inch engine, and built a brick addition to the power-house, 24 by 51 feet. Two 6.5-ton electric locomotives with drum attachment installed for mine work. Tunnel driven 200 feet from surface to Clark vein. Driving a tunnel from the surface to the Dunmore vein to be 300 feet in length when finished. It is about one- third completed.

Gravity Slope Colliery.—Completed a breaker, 92 by 114 feet with a capacity of 1,500 tons per day, to supersede the old White Oak breaker. A concreted washhouse, 16 by 50 feet, was built for Gravity slope. A wooden washhouse, 16 by 24 feet was built for No. 6 tunnel. Installed a 16-ton locomotive for hauling coal from the mines to the breaker. Completed a water tight pump room, 20 by 60 feet, and a chute 14 by 18 feet. Installed two centrifugal electrically driven pumps with a capacity of 2,500 gallons each. Completed an engine house, with 14 by 20 foot engines, for lowering coal on No. 8 plane. Installed four 300 H. P. Stirling boilers in brick house and one generator 250 K. W. at breaker, and furnished power for pumping plant and light for breaker. Completed one engine house, 20 by 24 feet, and installed a 14 by 20 foot Flory engine on No. 8 plane and No. 12 tunnel.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Carbondale High School Building, June 23 and 24. The Board of Examiners was composed of P. J. Moore, Inspector; Richard Beers, Superintendent, Carbondale; John F. Boland, Miner, Carbondale, and David Evans, Miner, Olyphant.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Thomas Davies, Charles F. Moore, Carbondale; Thomas J. Sullivan, Thomas H. Thomas, Patrick Cowley, Olyphant; Edison Thomas, John Kane, Jermyn; Thomas Stratford, Henry E. Yewens, Forest City; Michael Jennings, Jessup; Michael J. McAuvic, Archbald; Mathias Gehen, Scranton; Albert Lewis, Nanticoke; William Y. Moffat, Dunmore; Henry Deichmiller, Dickson City.

ASSISTANT MINE FOREMEN

William Luther Tyrrell, Oscar Williams, Thomas H. Williams, John L. Goodwin, Carbondale; David J. Thomas, Samuel Roe, William J. Miskell, Michael J. Kilcullen, George A. Evans, William J. Parry, Olyphant; John Geehan, Charles Turissini, Jessup; Harry T. Evans, Arthur I. Young, Joseph H. Grier, Frank B. Magovern, David E. Thomas, David J. Edwards, Scranton; George Reed, Forest City; David W. Richards, Throop; Robert Hall, Dickson City; Stephen William Fitzsimmons, Peckville; Frank J. Hevers, Archbald.

SECOND DISTRICT

LACKAWANNA COUNTY

Scranton, Pa., February 14, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my report as Inspector of Mines for the Second Anthracite District, for the year ending December 31, 1913, as required by the Act of April 14, 1903.

Respectfully submitted,

L. M. EVANS, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	12
Number of mines,	26
Number of mines in operation,	26
Number of tons of coal shipped to market,	3,282,906
Number of tons used at mines for steam and heat,	384,994
Number of tons sold to local trade and used by employes,	84,957
Number of tons produced,	3,752,857
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	7,482
Number of persons employed outside,	1,629
Number of fatal accidents inside of mines,	45
Number of fatal accidents outside,	1
Number of non-fatal accidents inside of mines,	43
Number of non-fatal accidents outside,	8
Number of tons of coal produced per fatal accident inside,	83,397
Number of tons produced per fatal accident outside,	3,752,857
Number of tons produced per fatal accident inside and outside,	81,583
Number of persons employed per fatal accident inside,	166
Number of persons employed per fatal accident outside,	1,629
Number of persons employed per fatal accident inside and outside,	198
Number of persons employed per non-fatal accident inside,	174
Number of persons employed per non-fatal accident outside,	203
Number of persons employed per non-fatal accident inside and outside,	179
Number of wives made widows,	28
Number of children made orphans,	70
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	14
Number of compressed air locomotives used inside,	35
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	39
Number of electric motors used outside,	....
Number of fans in use,	25
Number of furnaces in use,	....
Number of gaseous mines in operation,	22
Number of non-gaseous mines in operation,	4
Number of new mines opened,	....
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Delaware and Hudson Company (Inside) Hudson Coal Company (Outside)	1,827,056
Delaware, Lackawanna and Western Railroad Company,	1,268,545
Scranton Coal Company,	581,063
Clearview Coal Company,	40,702
Bulls Head Coal Company,	35,491
Total,	3,752,857

Production by Counties

Lackawanna,	3,752,857

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware and Hudson Co. (Inside), ... Hudson Coal Co. (Outside), ...	18	1	19	24	6	30	101,503	76,127	3,645	750	4,395	203	750	152	125
Delaware, Lackawanna and Western Railroad Co., ...	20	......	20	10	2	12	63,427	126,854	2,536	481	3,017	127	....	253	241
Scranton Coal Co., ...	5	......	5	3	......	3	116,212	193,687	1,133	340	1,473	226	....	377	....
Clearview Coal Co., ...	2	......	2	4	......	4	20,351	10,175	72	27	99	36	....	18	....
Bulls Head Coal Co., ...	......	......	......	2	......	2	....	17,745	96	31	127	....	....	48	....
Totals and averages for district, ...	45	1	46	43	8	51	83,397	87,276	7,482	1,629	9,111	166	1,629	174	203

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	....	....	....	....	....	....	....	....	....	1	....	1	2.22
Falls of roof, ...	...	3	4	4	4	3	2	3	....	1	1	2	27	60.00
Mine cars, ...	1	....	....	3	1	....	....	1	1	....	....	....	7	15.56
Explosions of powder and dynamite, ...	....	1	1	....	....	....	....	....	....	....	....	....	2	4.44
Blasts, premature and otherwise, ...	1	1	....	....	....	1	....	....	....	1	....	....	4	8.89
Falling into shafts, ...	....	....	....	1	....	....	3	....	....	....	....	....	4	8.89
Totals, ...	2	5	5	8	5	4	5	4	1	2	2	2	45	100.00
Causes of Accidents Outside														
By falling, ...	....	....	....	....	....	....	....	....	1	....	....	....	1	100.00
Totals, ...	...	....	....	....	....	....	....	....	1	....	....	....	1	100.00
Grand totals inside and outside, ...	2	5	5	8	5	4	5	4	2	2	2	2	46	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	....	....	....	....	....	....	....	1	....	....	....	1	2.33
Falls of roof, ...	2	2	1	1	2	....	2	1	1	....	5	2	19	44.19
Mine cars, ...	1	1	....	1	2	1	....	3	....	1	2	1	13	30.23
Explosions of gas, ...	....	..	....	....	...	....	....	....	....	....	....	1	1	2.33
Explosions of powder and dynamite, ...	....	...	1	....	....	....	....	....	....	....	....	....	1	2.33
Blasts, premature and otherwise, ...	1	...	....	....	....	....	....	....	1	1	....	....	3	6.98
Mules, ...	....	....	....	1	....	....	....	....	....	....	....	....	1	2.32
Machinery, ...	....	1	....	....	....	....	....	....	....	....	....	....	1	2.32
Struck by rope, ...	....	....	....	1	....	....	....	....	....	....	....	....	1	2.32
By falling, ...	....	....	....	....	..	....	....	2	....	....	....	....	2	4.65
Totals, ...	4	4	2	4	4	1	2	6	3	2	7	4	43	100.00
Causes of Accidents Outside														
Cars, ...	....	....	....	1	....	....	....	....	....	....	....	1	2	25.00
Machinery, ...	....	....	....	....	....	....	....	....	....	....	2	1	3	37.50
Bursting of pipe, ...	....	....	....	....	....	....	....	....	....	....	1	....	1	12.50
By falling, ...	....	....	....	....	....	....	....	1	....	....	....	1	2	25.00
Totals, ...	....	....	....	1	....	....	....	1	....	....	3	3	8	100.00
Grand totals inside and outside, ...	4	4	2	5	4	1	2	7	3	2	10	7	51	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	4	5	4	3	1	1	3	....	1	....	2	24
Miners' laborers,	2	1	....	3	2	2	1	....	....	1	2	....	14
Drivers and runners,	....	....	....	1	....	....	....	1	....	....	....	....	2
Company men,	....	....	....	....	....	1	....	....	....	....	....	....	1
Headmen,	....	....	....	....	....	....	3	....	....	....	....	....	3
Brakemen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	2	5	5	8	5	4	5	4	1	2	2	2	45
Outside													
Laborers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	....	....	....	....	....	....	....	....	1	....	....	....	1
Grand totals inside and outside,	2	5	5	8	5	4	5	4	2	2	2	2	46

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	....	....	....	....	....	....	....	1	....	....	....	....	1
Miners,	....	1	1	....	....	....	2	1	3	1	....	2	11
Miners' laborers,	2	2	1	1	2	....	....	2	....	....	6	1	17
Drivers and runners,	2	1	....	2	2	1	....	1	....	1	1	....	11
Motormen,	....	....	....	1	....	....	....	....	....	....	....	....	1
Brakemen,	....	....	....	....	....	....	....	1	....	....	....	1	2
Totals,	4	4	2	4	4	1	2	6	3	2	7	4	43
Outside													
Drivers,	....	....	....	....	....	....	....	1	....	....	....	....	1
Machinists,	....	....	....	....	....	....	....	....	....	....	1	....	1
Blacksmiths and carpenters,	....	....	....	....	....	....	....	....	....	....	1	....	1
Engineers and firemen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Slatepickers (boys),	....	....	....	....	....	....	....	....	....	....	1	....	1
Laborers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Bookkeepers and clerks,	....	....	....	1	....	....	....	....	....	....	....	....	1
Timbermen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	....	....	....	1	....	....	....	1	....	....	3	3	8
Grand totals inside and outside,	4	4	2	5	4	1	2	7	3	2	10	7	51

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	1	....	....	1	....	1	1	....	....	....	5
English,	....	....	....	1	....	....	....	....	....	....	....	....	1
Welsh,	....	....	....	....	1	....	....	1	....	....	....	....	2
Irish,	....	....	1	1	1	....	....	....	....	....	....	....	3
Polish,	1	....	2	4	3	1	2	....	....	....	1	1	15
Hungarian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Italian,	....	....	....	....	....	....	....	...	1	....	....	....	1
Slavonian,	....	....	....	....	....	....	3	....	....	....	....	....	3
Lithuanian,	....	5	1	1	....	1	....	2	....	....	1	1	12
Russian,	....	....	....	1	....	1	....	....	....	1	....	....	3
Totals,	2	5	5	8	5	4	5	4	2	2	2	2	46

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	....	3	2	....	1	2	....	....	2	3	14
English,	...	....	....	....	....	....	....	....	....	....	1	1	2
Welsh,	1	....	....	....	....	....	....	....	....	....	1	....	2
Scotch,	....	....	....	....	....	....	....	1	....	....	....	....	1
Irish,	....	1	....	....	....	....	....	1	....	1	....	1	4
German,	....	....	....	....	....	....	....	....	....	1	1	....	2
Polish,	2	1	1	....	1	....	1	1	1	....	1	1	10
Italian,	....	....	....	....	1	....	....	....	....	....	1	....	2
Lithuanian,	....	1	....	....	....	....	....	1	2	....	2	....	[illegible]
Russian,	....	1	1	2	....	1	....	1	....	....	1	1	8
Totals,	4	4	2	5	4	1	2	7	3	2	10	7	51

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware and Hudson Co. (Inside), Hudson Coal Co. (Outside)															
Eddy Creek Colliery:															
Eddy Creek, ...	Shaft, ...	Gaseous, ..	Fan, ...	28	8	7.75	65	2.5	Guibal, ...	Steam, ...	8	186,150	179,200	192,750	108
New County, ...	Drift, ...	Non-gas., .	Fan, ...	8	3	2.12	160	1	Guibal, ...	Electricity,	2	36,468	26,606	41,225	80
Clark, ...	Drift, ...	Gaseous, ..	Fan, ...	10	3.3	2.5	180	1	Guibal, ...	Electricity,	3	48,298	36,426	53,086	80
Olyphant, ...	Shaft, ...	Gaseous, ..	Fan, ...	22	5	6.50	95	2.2	Guibal, ...	Steam, ...	10	205,503	156,153	260,245	446
No. 4, ...	Drift, ...	Non-gas., .	Fan, ...	10	2.5	2.5	125	2	Guibal, ...	Steam, ...	2	40,660	37,440	45,910	70
Dickson and Von Storch Colliery:															
Dickson, ...	Shaft, ..	Gaseous, ..	Fan, ...	20	5	7	75	1.6	Guibal, ...	Steam, ...	6	148,900	123,900	156,000	260
Dickson, ...				20	5	7	85	1.9			6	100,400	89,000	112,100	220
Von Storch, ...				22	5.5	7	85	2.2			7	101,440	75,710	108,610	265
Parker, ...				12	3.0	4	85	2.2			2	15,100	11,400	18,200	52
Marvine Colliery:															
No. 2, ...	Shaft, ..	Gaseous, ..	Fan, ...	28	8	7.75	66	1.4	Guibal, ...	Steam, ...	4	142,200	129,700	149,880	172
14 Foot Vein, ...	Slope, ...			20	5	7	76	1.4			3	88,900	82,180	92,800	82
Clark, ...	Slope, ...			20	5	7	66	1.4			6	213,830	190,700	224,330	270
Legitts Creek Colliery:															
No. 1, ...	Shaft, ..	Gaseous, ..	Fan, ...	20	5	6	80	2.5	Guibal, ..	Steam, ...	6	126,100	116,350	147,410	272
No. 2, ...				20	5	6	80	2.6			4	56,170	52,110	59,000	104
No. 3, ...				22	5.5	7	90	4			4	109,900	81,200	122,800	208

Delaware, Lackawanna and Western Railroad Co.														
Storrs Colliery:														
No. 1,	Shaft,	Gaseous,	Fan,	24	7.6	7.2	68	2.2	Guibal,	Steam,	12	207,660	168,063	244,567	630
No. 2,				15	7	4.5	83	1.4	Jeffrey,	Steam,	16	182,763	167,570	212,762	510
No. 3,				24	8.00	6	73	1.3	Guibal,	Steam,	10	152,593	127,386	230,470	474
Brisbin Colliery:															
Brisbin,	Shaft,	Gaseous,	Fan,	15	8.3	4.2	68	1.3	Jeffrey,	Steam,	8	192,080	165,100	216,290	504
Cayuga Colliery:															
Cayuga,	Shaft,	Gaseous,	Fan,	18	6	5.5	80	2.5	Guibal,	Steam,	10	200,300	151,630	207,300	418
Scranton Coal Co.															
Johnson Colliery:															
No. 1,	Shaft,	Gaseous,	Fan,	30	10	8	55	1.4	Guibal,	Steam,	10	221,820	173,360	223,900	477
No. 2,	Shaft,	Gaseous,	Fan,	18	5	4.8	100	1.4	Guibal,	Steam,	4	78,000	*	90,000	237
Richmond No. 3 Colliery:															
Richmond,	Shaft,	Gaseous,	Fan,	30	8	10	30	.9	Guibal,	Steam,	4	65,000	55,000	82,000	177
West Ridge Colliery.															
West Ridge,	Shaft,	Gaseous,	Fan,	20	5	5	85	1.8	Guibal,	Steam,	6	77,000	69,700	81,800	220
Clearview Coal Co.															
Clearview Colliery:															
Clearview,	Shaft,	Non-gas.,	†	.....	......	......	.....	1	....	....	1	*16,800	14,000	16,000	23
Bulls Heal Coal Co.															
Bulls Head Colliery:															
Bulls Head,	Slope,	Non-gas.,	Fan,	8	2	4	100	1	....	....	3	23,000	18,000	34,000	64

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†Ventilated by fan at Von Storch colliery.

*It is difficult to measure the air owing to the many connections in the old workings, together with cave holes.

8—22—1914

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Delaware and Hudson Co. (Inside), Hudson Coal Co. (Outside)						
Eddy Creek,	Lackawanna,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	Delaware and Hudson
Dickson and Von Storch,						
Marvine,						
Legitts Creek,						
Legitts Creek Washery,						
Von Storch Washery,						
Delaware, Lackawanna and Western Railroad Co.						
Storrs,	Lackawanna,	R. A. Phillips,	Scranton,	Walter Reese,	Scranton,	D. L. and W.
Brisbin,						
Cayuga,						
Cayuga Washery,						
Storrs Washery,						
Scranton Coal Co.						
Johnson,	Lackawanna,	W. L. Allen,	Peckville,	J. K. Berkheiser, Inside, J. J. Aitkin, Outside, Daniel Young, Sr., Inside, J. J. Aitkin, Outside, Daniel Young, Sr., Inside, J. F. Cummings, Outside,	Olyphant, Priceburg, Scranton, Priceburg, Scranton, Scranton,	N. Y., O. and W.
Richmond No. 3,						
West Ridge,						
Clearview Coal Co.						
Clearview,	Lackawanna,	F. P. Christian,	Scranton,	Hugh A. Dawson,	Scranton,	N. Y., O. and W.
Bulls Head Coal Co.						
Bulls Head,	Lackawanna,	David Spruks,	Scranton,	Jay Law,	Scranton,	N. Y., O. and W.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Delaware and Hudson Co. (Inside) Hudson Coal Co. (Outside)													
Eddy Creek,	Lackawanna,	547,582	3,818	10	551,410	252	1,407	6	10	738,475	22,540	5,750	108
Dickson and Von Storch,		412,562	28,748	8,033	449,343	228	1,215	7	11	863,475	76,390	....	117
Marvine,		307,843	35,682	4,517	348,042	248	910	4	2	500,925	45,832	....	78
Legitts Creek,		294,706	18,532	12,831	326,069	241	863	2	7	515,100	35,649	....	70
Washeries		1,562,693	86,780	25,391	1,674,864	......	4,395	19	30	2,617,975	180,411	5,750	373
Legitts Creek,	Lackawanna,	....	80,974	....	80,974	*	......	......	......	....	....	....	....
Von Storch,		22,767	48,451	....	71,218	69	*	......	......	....	....	....	....
Totals,		1,585,460	216,205	25,391	1,827,056	......	4,395	19	30	2,617,975	180,411	5,750	373
Delaware, Lackawanna and Western Railroad Co.													
Storrs,	Lackawanna,	750,594	43,885	5,832	800,311	251	1,880	12	5	954,075	65,903	....	123
Brisbin,		195,607	18,808	5,452	219,867	243	616	7	3	257,700	13,162	....	51
Cayuga,		156,075	18,340	6,027	180,442	220	485	1	4	128,400	85,941	....	31
Washeries		1,102,276	81,033	17,311	1,200,620	......	2,981	20	12	1,340,175	165,006	....	205
Cayuga,	Lackawanna,	52,684	....	....	52,684	270	28	......	......	....	....	....	....
Storrs,		11,455	3,786	....	15,241	15	8	......	......	....	....	....	....
Totals,		1,166,415	84,819	17,311	1,268,545	......	3,017	20	12	1,340,175	165,006	....	205

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*Included with colliery.

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Scranton Coal Co.													
Johnson,	Lackawanna,	294,176	53,200	3,558	350,934	215	934	3	3	260,000	31,800	....	105
Richmond No. 3,		114,893	18,420	2,130	135,443	198	257	2	......	65,000	4,200	....	32
West Ridge,		81,786	10,700	2,200	94,686	200	282	......	......	142,250	30,875	....	27
Totals,	....	490,855	82,320	7,888	581,063	......	1,473	5	3	467,250	66,875	....	164
Clearview Coal Co.													
Clearview,	Lackawanna, ...	19,224	150	21,328	40,702	236	99	2	4	23,575	15,382	38,957	5
Bulls Head Coal Co.													
Bulls Head,	Lackawanna, ...	20,952	1,500	13,039	35,491	261	127	......	2	11,250	3,250	5,100	22
Grand totals,	....	3,282,906	384,994	84,957	3,752,857	......	9,111	46	51	4,460,225	430,924	49,807	769

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Delaware and Hudson Co. (Inside), Hudson Coal Co. (Outside),	Lackawanna,	......	......	57	12,940	12,940	3	35	......	181	11,490	15	26,000	11,650	2	15
Delaware, Lackawanna and Western Railroad Co.,		6	750	19	4,900	5,650	7	......	34	50	7,381	7	11,171	5,766	9	......
Scranton Coal Co.,		......	......	29	3,590	3,590	4	......	3	51	10,226	10	8,383	6,259	4	1
Clearview Coal Co.,		......	......	....	....	....	.....	......	2	4	125	....	....	....	......	......
Bulls Head Coal Co.,		......	......	1	200	200	.....	......	......	4	125	....	....	....	......	......
Totals,	....	6	750	106	21,630	22,380	14	35	39	290	29,347	32	45,554	23,675	15	16

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Delaware and Hudson Co. (Inside), Hudson Coal Co. (Outside), ...	Lackawanna,	7	7	34	1,109	1,187	577	67	23	518	116	3,645	....	7	47	138	58	125	8	367	750	4,395
Delaware, Lackawanna and Western Railroad Co., ...		6	5	20	784	990	182	48	13	271	217	2,536	....	4	29	71	112	....	12	253	481	3,017
Scranton Coal Co., ...		4	6	11	339	345	176	25	25	....	202	1,133	....	3	24	70	48	41	3	151	340	1,473
Clearview Coal Co., ...		2	1	1	10	24	3	....	1	30	....	72	1	1	1	3	7	....	3	11	27	99
Bulls Head Coal Co., ...		1	....	....	44	20	13	3	....	15	....	96	1	1	3	4	6	1	1	14	31	127
Totals, ...	....	20	19	66	2,286	2,566	951	143	62	834	535	7,482	2	16	104	286	231	167	27	796	1,629	9,111

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Delaware and Hudson Co. (Inside), Hudson Coal Co. (Outside),	Lackawanna,	22	20	20	20	21	20	20	19	20	21	19	20	242
Delaware, Lackawanna and Western Railroad Co.,		14	16	19	22	22	21	22	22	20	20	20	20	238
Scranton Coal Co.,		20	19	20	19	16	15	17	15	16	17	15	15	204
Clearview Coal Co.,		27	26	26	14	......	......	12	27	26	27	26	25	236
Bulls Head Coal Co.,		23	22	20	21	20	23	21	23	23	23	20	22	261

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	9	Frank Adamovich, ...	Polish,......	Laborer, ..	22	S.	....	....	Storrs, ...	Lackawanna, .	Killed by blast at face of chamber.
	17	Thomas Campbell, ...	American, ..	Laborer, ..	28	S.	....	....	Von Storch, ..		Fatally injured by cars at foot of slope. He was uncoupling cars in motion when one of them became derailed and squeezed him against the pillar.
Feb.	6	Frank Ballinshitus, ..	Lithuanian,	Miner, ...	45	M.	1	2	Brisbin, ...		Killed by fall of bell roof in face of chamber.
		Peter Smith, ...	Lithuanian,	Laborer, ..	26	S.	....	....			
	10	Charles Zachovitch ,..	Lithuanian,	Miner, ...	47	M.	1	4	Storrs, ...		Killed by blast at face of chamber. He was found ten feet from the hole and no one knows how the accident occurred.
	18	John Rogers, ...	Lithuanian,	Miner, ...	53	M.	1	2	Storrs, ...		Fatally burned by powder in chamber. While preparing powder a spark from his lamp ignited it.
	21	Alexander Niscovitch,.	Lithuanian,	Miner, ...	40	M.	1	6	Storrs, ...		Killed by fall of roof at face of chamber while re-standing prop that had been dislodged by blast.
March	4	John Marchonis, ...	Lithuanian,	Miner, ...	40	M.	1	4	Legitts Creek,.		Fatally injured by fall of bell roof at face of chamber.
	5	James Brady, ...	American, ..	Miner, ...	51	M.	1	3	Johnson, ...		Killed by fall of bell roof at face of chamber.
	8	Frank Supliki, ...	Polish,......	Miner, ...	36	M.	1	1	Clearview, ...		Fatally burned by powder in chamber. A spark from his light fell into powder.
	14	Adam Yancavige, ...	Polish, ...	Miner, ...	58	S.	....	....	Brisbin, ...		Fatally injured by fall of bell roof at face of chamber.
	31	Anthony Irvin, ...	Irish, ...	Miner, ...	37	M.	1	2	Legitts Creek,.		Fatally injured by fall of bell roof at face of chamber.
April	4	Joseph Darbish, ...	Polish,......	Laborer, ..	25	M.	1	1	Storrs, ...		Fatally injured by fall of bell roof at face of chamber.
	9	Patrick Noone, ...	Irish, ...	Miner, ...	57	M.	....	....	Von Storch, ..		Fatally injured by fall of roof at face of chamber while standing a prop under it.
	12	Patrick Farrell, ...	English, ...	Runner, ..	32	S.	....	....	Johnson, ...		Fatally injured by fall of bell roof at face of chamber while waiting for car.
	15	John Crasko, ...	Russian, ...	Laborer, ..	21	S.	....	....	Eddy Creek, ..		Killed by car at face of chamber. He was running a car out and forgot to remove the rail-block. The car was derailed and fell on him.

April	16	George Kasula, ...	Polish, ...	Miner, ...	38	M.	1	4	Richmond No. 3,	Lackawanna, .	Killed by fall of roof at face of chamber. He knew the roof to be unsafe, but neglected to take it down.
	17	Michael Grinwichel, ..	Lithuanian,	Miner, ...	55	M.	1	1	Dickson, ...		Killed by car at face of chamber. He was running a car out which became derailed and fell on him.
	21	Anthony Kiss, ...	Polish, ...	Laborer, ..	25	S.	....	....	Storrs, ...		Killed by falling into shaft. He attempted to raise the cage hand-rail when near the surface and lost his balance.
	30	Joseph Rodowski, ...	Polish, ...	Miner, ...	28	S.	....	....	Storrs, ...		Killed by car on gangway road. He lost his footing while getting on the bumper and fell under the car.
May	3	John Phillips, ...	Polish, ...	Laborer, ..	26	M.	1	6	Eddy Creek, ..		Fatally injured by fall of bell roof at face of chamber.
	6	Louis Skashick, ...	Polish, ...	Miner, ...	35	M.	1	1	Eddy Creek, ..		Fatally injured by fall of roof at face of chamber. He neglected to take it down.
	8	Anthony Puck, ...	Polish, ...	Laborer, ..	42	M.	1	2	Brisbin, ...		Fatally injured by cars on top of plane. He was holding the car with his back and the motorman released the rope before the head-block was put on.
	9	Windham John, ...	Welsh, ...	Miner, ...	22	M.	1	....	Marvine, ...		Killed by fall of slip roof at face of working place.
	23	James O'Donnell, ...	Irish, ...	Miner, ...	35	M.	1	5	Marvine, ...		Killed by fall of roof at face of chamber while working out a blast.
June	5	George Roback, ...	Polish, ...	Laborer, ..	27	M.	1	....	Cayuga, ...		Fatally injured by blasting at face of chamber. He thought the squib missed and went to the face just as it exploded.
	7	Joseph Rogers, ...	Lithuanian,	Laborer, ..	25	S.	....	....	Richmond No. 3,		Killed by fall of bell roof at face of chamber.
	14	Michael Sigh, ...	Russian, ...	Miner, ...	34	M.	1	3	Dickson, ...		Fatally injured by fall of bell roof at face of chamber.
	28	William Hartman, ...	American, ..	Company man,	34	W.	....	2	Eddy Creek, ..		Fatally injured by fall of bell roof at face of gangway while making room for timber.
July	1	Usef Metrovich, ...	Polish, ...	Laborer, ..	20	S.	....	....	Eddy Creek, ..		Killed by fall of bell roof at face of chamber.
	5	Michael Boncavage, .	Slavonian, ..	Headman,	26	M.	1	....	Brisbin, ...		Killed by falling into shaft. They were pushing a car off the cage on the head while the engineer was preparing to clutch for another vein, when, in some unknown manner, the cage fell into the shaft, taking the men with it. As soon as the engineer saw the loose drum turning, he tried to apply the brakes stronger, but failed to check the cage on account of the speed gained. Mike Sepko, another headman, testified that he placed the fans as usual, and two eye witnesses testified they saw the engineer apply the brake before starting to clutch. The brakes were tested and found to be efficient. The coroner's jury failed to place the responsibility for the accident.
		John Kasuba, ...	Slavonian, ..	Headman,	40	M.	1	6			
		John Farko, ...	Slavonian, ..	Headman,	19	S.	....	....			

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
July 26	John Savitska, ...	Polish, ...	Miner, ...	45	M.	1	4	Storrs, ...	Lackawanna, .	Killed by fall of bell roof near face of chamber.
Aug. 9	William Cullington, ..	American, ..	Runner, ..	16	S.	....	....	Marvine, ...		Fatally injured by car on gangway road. He was leading a mule when it turned on the wrong road, throwing him against the rib where he was caught by a derailed car.
18	Martin Smith, ...	Lithuanian,	Miner, ...	37	M.	1	....	Von Storch, ..		Fatally injured by fall of roof at face of chamber while examining after a blast.
	Roger Kulick, ...	Lithuanian,	Miner, ...	36	M.	1	2	Storrs, ...		Killed by fall of bell roof at face of chamber.
29	Edwin Thomas, ...	Welsh,......	Miner, ...	50	M.	1	2	Eddy Creek, ..		Killed by fall of roof at face of chamber while re-standing a prop dislodged by blast.
Sept. 3	Rookey Ferlane, ...	Italian, ...	Laborer, ..	24	M.	1	1	Marvine, ...		Fatally injured by falling from scaffold on new power house. He was wheeling a barrow and lost his balance. Outside.
22	John Cook, ...	American, ..	Brakeman,	19	S.	...	...	Storrs, ...		Killed by car on gangway road. He was riding on the motor, and, in some manner, fell under.
Oct. 4	John Propeck, ...	Russian, ...	Laborer, ..	32	M.	1	2	Dickson, ...		Fatally injured by fall of bell roof at face of chamber.
27	Emery Belshaw, ...	Hungarian, .	Miner, ...	30	M.	1	2	Storrs, ...		Fatally injured by blasting near face of chamber while tamping charge of powder.
Nov. 1	Peter Petrofski, ...	Lithuanian,	Laborer, ..	26	S.	....	....	Von Storch, ..		Killed by fall of bell roof near face of chamber.
13	Andrew Schmidt, ...	Polish,......	Laborer, ..	23	S.	...	....	Clearview, ...		Fatally injured by fall of coal at face of chamber.
Dec. 16	John Barkas, ...	Lithuanian,	Miner, ...	45	M.	1	2	Storrs, ...		Fatally injured by fall of roof at face of chamber while re-standing a prop dislodged by blast.
22	John Groboski, ...	Polish,......	Miner, ...	28	S.	...	...	Johnson, ...		Fatally injured by fall of roof at face of chamber.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 22	Thomas Edwards, ...	Welsh, ...	Laborer, ...	35	S.	Von Storch, ...	Lackawanna, .	Foot lacerated by fall of bell roof at face of chamber.
24	John J. Parry, ...	American, ..	Driver, ...	17	S.	Eddy Creek, ...		Skull fractured by fall of slip roof on gangway road.
27	Frank Poptovich, ...	Polish, ...	Driver, ...	17	S.	Marvine, ...		Arm fractured by cars on gangway road. He slipped and fell under cars while unhitching.
31	Frank Tuck, ...	Polish, ...	Laborer, ...	30	S.	Storrs, ...		Back injured by blast at face of chamber.
Feb. 3	Michael Wilitis, ...	Polish, ...	Laborer, ...	34	M.	Brisbin, ...		Back injured by fall of bell roof at face of chamber.
11	Frank Jerboski, ...	Lithuanian,	Laborer, ...	48	M.	Legitts Creek, ...		Leg fractured by fall of roof at face of chamber. A piece of roof fell on the gob and slid on him.
21	Matthew Collins, ...	Irish	Miner, ...	30	M.	Storrs, ...		Foot lacerated by machinery at face of chamber. While working with a coal-cutting machine it fell on his foot.
24	Michael Bunshuleski..	Russian, ...	Runner, ...	22	S.	Eddy Creek, ...		Ribs fractured by car on gangway road. He was riding on top of car and was caught in door frame.
March 21	James Chefski, ...	Russian, ...	Laborer, ...	23	S.	Legitts Creek, ...		Back contused by fall of bell roof at face of chamber.
	Stanley Thurshitis, ..	Polish, ...	Miner, ...	30	S.	Bulls Head, ...		Burned by powder in chamber. A spark from his light fell into powder and exploded it.
April 5	Samuel Berger, ...	Russian, ...	Driver, ...	26	S.	Eddy Creek, ...		Jaw bone fractured by being struck with a plane rope.
12	John T. Gallagher, ..	American, ..	Motorman, ...	19	S.	Legitts Creek, ...		Legs fractured by cars on gangway road. He ran on the wrong road and bumped into a door.
	William Jones, ...	American, ..	Runner, ...	21	M.	Cayuga, ...		Pelvis injured by kick from mule on gangway road.
15	Charles Wilcox, ...	American, ..	Clerk, ...	60	M.	Von Storch, ...		Ribs fractured by cars. He walked in front of a moving locomotive. Outside.
24	Anthony Stepanovich,.	Russian, ...	Laborer, ...	30	M.	Von Storch, ...		Leg fractured by fall of roof at face of chamber while watching the miner take down roof.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
May 1	Edward Schlager, ...	American, ..	Runner, ...	25	S.	Dickson, ...	Lackawanna, ..	Leg fractured by derailed cars on gangway road.
2	Joseph Haggerty, ...	American, ..	Driver, ...	18	S.	Storrs, ...		Leg fractured by derailed cars on gangway road.
18	Frank Cooby, ...	Polish,......	Laborer, ...	23	M.	Eddy Creek, ...		Leg fractured by fall of bell roof at face of chamber.
21	Anthony Ballentine, ..	Italian, ...	Laborer, ...	25	M.	Eddy Creek, ...		Leg fractured by fall of slip roof at face of chamber.
June 14	John Harsechack, ...	Russian, ...	Driver, ...	17	S.	Eddy Creek, ...		Leg fractured by cars on top of plane while coupling cars.
July 2	John Ashman, ...	American, ..	Miner, ...	35	M.	Eddy Creek, ...		Shoulder fractured by fall of roof at face of chamber while examining after blast.
29	Stanley Rack, ...	Polish,......	Miner, ...	37	S.	Cayuga, ...		Rib fractured by fall of roof at face of chamber.
Aug. 2	Thomas Nichols, ...	American, ..	Brakeman, ...	22	S.	Marvine, ...		Two ribs fractured by derailed cars on gangway road.
6	Albert Newton, ...	American, ..	Laborer, ...	37	M.	Storrs, ...		Shoulder dislocated by slipping on smooth bottom.
	Carl Harbarker, ...	Russian, ...	Laborer, ...	27	S.	Dickson, ...		Leg fractured by derailed cars at face of chamber.
15	William McDowell, ..	Scotch, ...	Fire boss, ...	48	M.	Von Storch, ...		Collar bone fractured by slipping on smooth bottom.
19	Charles Yecknovitz, ..	Polish,......	Driver, ...	17	S.	Johnson, ...		Leg fractured by derailed cars on gangway road.
21	John Jakes, ...	Lithuanian,	Driver, ...	17	S.	Cayuga, ...		Skull fractured by falling off mule while riding to barn. Outside.
27	Mark Barrett, ...	Irish, ...	Miner, ...	29	M.	Clearview, ...		Back injured by fall of bell roof at face of chamber.
Sept. 6	William Minkles, ...	Lithuanian,	Miner, ...	35	M.	Bulls Head, ...		Foot injured by fall of coal at face of chamber.
15	Lewis Zura, ...	Lithuanian,	Miner, ...	52	M.	Brisbin, ...		Ankle fractured by fall of roof at face of chamber while removing prop from under it.
19	Bronslaw Gracih, ...	Polish,......	Miner, ...	37	M.	Dickson, ...		Back injured by blast at face of chamber.

Oct.	3	James Reilly, ...	Irish, ...	Miner, ...	35	M.	Storrs, ...	Lackawanna, .	Arm fractured by blast near face of chamber.
	4	Frank Pevitch, ...	German, ...	Runner, ...	17	S.	Von Storch, ...		Leg fractured by cars on gangway road.
Nov.	3	Joseph Mineavage, ...	Lithuanian,	Laborer, ...	19	S.	Cayuga, ...		Arm fractured by fall of bell roof at face of chamber.
	6	Dulix Regora, ...	Russian, ...	Laborer, ...	21	S.	Dickson, ...		Leg fractured by derailed cars in chamber.
	7	David Jones, ...	Welsh, ...	Laborer, ...	35	S.	Eddy Creek, ...		Leg fractured by fall of bell roof at face of chamber.
	10	William Hawkins, ...	American, ..	Machinist, ...	40	M.	Legitts Creek, ...		Body scalded by the bursting of a hot water pipe in the power house. Outside.
	11	John Booth, ...	English, ...	Runner, ...	18	S.	Eddy Creek, ...		Leg fractured by cars on gangway.
	13	Joseph Mackowski, ..	American, ..	Slatepicker, ...	14	S.	Marvine, ...		Leg fractured by machinery in breaker. He was pushing coal in a chute when his foot caught in a moving belt.
	17	James Lencokski, ...	Polish, ...	Laborer, ...	27	S.	Johnson, ...		Foot crushed by fall of roof at face of chamber while assisting to stand a prop under it.
		John Farno, ...	Italian, ...	Laborer, ...	41	M.	Clearview, ...		Body injured by fall of slip roof at face of chamber.
		William Wasaleski, ..	Lithuanian,	Laborer, ...	34	S.	Von Storch, ...		Leg fractured by fall of roof at face of chamber.
	29	John Shifler, ...	German, ...	Carpenter, ...	43	M.	Marvine, ...		Four fingers amputated by power circle saw. Outside.
Dec.	6	Martin Hickey, ...	American, ..	Brakeman, ...	18	S.	Legitts Creek, ...		Arm fractured by cars on gangway road.
		Charles Burlingame, ..	American, ..	Miner, ...	45	M.	Johnson, ...		Burned by explosion of gas in abandoned works where he strayed away from his work.
	10	Joseph Viesoski, ...	Russian, ...	Laborer, ...	38	S.	Clearview, ...		Hip contused by fall of roof at face of chamber. The miner failed to detect it when examining the roof.
	11	Joseph Petercovich, ..	Polish, ...	Laborer, ...	41	M.	Eddy Creek, ...		Injured internally by cars. He was crossing a track between cars when they were bumped together. Outside.
	15	Dennis Blackledge, ..	Irish, ...	Engineer, ...	48	M.	Brisbin, ...		Hand lacerated by machinery in engine room while oiling the engine in motion. Outside.
	18	Robert Jenkins, ...	English, ...	Timberman, ...	69	M.	Dickson, ...		Ribs fractured by falling near breaker. Outside.
		Edward McGuire, ...	American, ..	Miner, ...	38	M.	Clearview, ...		Legs fractured by fall of bell roof at face of chamber.

CONDITION OF COLLIERIES

DELAWARE AND HUDSON COMPANY (INSIDE)

HUDSON COAL COMPANY (OUTSIDE)

Eddy Creek.—Ventilation and drainage good; condition as to safety good.

Von Storch.—Ventilation good; drainage fair; condition as to safety good.

Dickson.—Ventilation and drainage good; condition as to safety good.

Marvine.—Ventilation and drainage good; condition as to safety good.

Legitts Creek.—Ventilation and drainage good; condition as to safety good.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs.—Ventilation and drainage good; condition as to safety good.

Brisbin.—Ventilation good; drainage fair; condition as to safety good.

Cayuga.—Ventilation good; drainage fair; condition as to safety good.

SCRANTON COAL COMPANY

Johnson.—Ventilation and drainage good; condition as to safety good.

Richmond No. 3.—Ventilation and drainage good; condition as to safety good.

West Ridge.—Ventilation and drainage fair; condition as to safety good.

CLEARVIEW COAL COMPANY

Clearview.—Ventilation and drainage fair; condition as to safety good.

BULLS HEAD COAL COMPANY

Bulls Head.—Ventilation and drainage good; condition as to safety good.

IMPROVEMENTS

DELAWARE AND HUDSON COMPANY (INSIDE)

HUDSON COAL COMPANY (OUTSIDE)

EDDY CREEK COLLIERY:

Eddy Creek Shaft.—A concrete barn was built in the Dunmore vein near the foot of shaft to hold 24 mules. A car haul, steam driven, 180 feet long, was completed in Dunmore vein to handle light cars from foot of shaft and deliver them to water level and No. 25

plane and branches. A car haul, steam driven, 140 feet long, is in course of construction in the Clark vein for the same purpose. Extended Rock slope No. 14, 300 feet on pitch of 12 degrees, in Dunmore vein, through big fault from top of Eddy Creek anticlinal into Miles basin. An air shaft, 10 by 10 feet, 40 feet deep, and fan drift 75 feet long were completed, connecting with up-cast of Eddy Creek shaft for proposed emergency fan.

Olyphant Shaft.—A second opening and return airway, 7 by 18 feet, was driven from Clark vein to Rock vein, 700 feet on 28 degree pitch. An intake shaft, 12 by 12 feet, to Rock vein, was sunk through 60 feet of wash at face of No. 25 plane near crop.

Bird Eye.—Extended No. 4 slope 150 feet through fall and graded 1,200 feet of slope in Clark vein.

Olyphant Breaker.—Installed a central power plant, comprising one 1,000 K. V. A., 25 cycle alternating generator, directly connected to a Hamilton-Corliss cross compound engine. The voltage is 2,300, and power will be furnished to mine motors in Archbald, Olyphant and Scranton districts. Steam for the plant is provided by two batteries of Sterling boilers, yielding 1,800 H. P. The whole is housed in a brick and steel structure.

Marvine Colliery.—Extended Rock plane 7 by 12 feet, from 14 foot vein to the Diamond vein 1,000 feet on a pitch of 12 degrees to lower coal to 14 Foot landing at shaft. This plane is operated by a 14 by 20 inch Flory engine, located on surface. Extended Rock plane 400 feet on pitch of 12 degrees from No. 4 Dunmore to No. 3 Dunmore vein. Built a new pump room in Clark vein, 17 by 32 by 11 feet, for locating plant to deliver water to 14 Foot vein level.

Legitts Creek Colliery.—Extended Rock plane from Rock to Diamond vein 350 feet on 12 degree pitch for handling coal in latter vein on northwest end of property.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Installed one 18 by 6 foot fan, including engine and fan house. Remodeled scales. Added two 5 by 6 inch plunger pumps with motors, and one haulage electric motor with reel.

Brisbin Colliery.—Installed one 18 by 6 foot ventilating fan, including engine and house. Built brick and concrete oil house. Made second opening shaft from four foot to five foot vein.

Cayuga Colliery.—Installed one 7-ton electric motor with reel in Dunmore No. 2 vein.

SCRANTON COAL COMPANY

Johnson Colliery.—Built a hospital, 12 by 14 feet, equipped with steam heat, electric lights, hot and cold water, cots and First Aid outfit.

Richmond No. 3 Colliery.—Built a hospital, 14 by 15 feet, equipped with steam heat, electric lights, hot and cold water and First Aid outfit.

West Ridge Colliery.—Built a hospital, 10 by 12 feet, equipped with steam heat, hot and cold water and First Aid outfit.

CLEARVIEW COAL COMPANY

Clearview Colliery.—Sunk shaft from four foot vein to Rock vein and installed one 5-ton Jeffrey electric motor, one Jeffrey long wall coal cutter, one 150 K. W. motor generator set and one set of breaker rolls, 36 by 36 inches.

BULLS HEAD COAL COMPANY

Bulls Head Colliery.—Installed one 200 H. P. locomotive boiler, and one air compressor, 12 by 19 by 11 by 14 feet. Built a hospital and compressor room.

THIRD DISTRICT

LACKAWANNA COUNTY

Scranton, Pa., February 5, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my report as Inspector of Mines for the Third Anthracite District for the year ending December 31, 1913, as required by the Act of April 14, 1903.

Respectfully submitted,

S. J. PHILLIPS, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	12
Number of mines.	23
Number of mines in operation,	23
Number of tons of coal shipped to market,	2,963,698
Number of tons used at mines for steam and heat,	216,226
Number of tons sold to local trade and used by employes,	99,862
Number of tons produced,	3,279,786
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	5,922
Number of persons employed outside,	1,704
Number of fatal accidents inside of mines,	21
Number of fatal accidents outside,	1
Number of non-fatal accidents inside of mines,	44
Number of non-fatal accidents outside,	1
Number of tons of coal produced per fatal accident inside,	156,180
Number of tons produced per fatal accident outside,	3,279,786
Number of tons produced per fatal accident inside and outside,	149,081
Number of persons employed per fatal accident inside,	282
Number of persons employed per fatal accident outside,	1,704
Number of persons employed per fatal accident inside and outside,	347
Number of persons employed per non-fatal accident inside,	135
Number of persons employed per non-fatal accident outside,	1,704
Number of persons employed per non-fatal accident inside and outside,	169
Number of wives made widows,	15
Number of children made orphans,	40
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	10
Number of compressed air locomotives used inside,	....
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	26
Number of electric motors used outside,	....
Number of fans in use,	20
Number of furnaces in use,	1
Number of gaseous mines in operation,	10
Number of non-gaseous mines in operation,	13
Number of new mines opened,	....
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Pennsylvania Coal Company,	1,017,248
Delaware, Lackawanna and Western Railroad Company,	584,294
Scranton Coal Company,	651,010
Price-Pancoast Coal Company,	637,407
Green Ridge Coal Company,	100,137
Spencer Coal Company,	83,660
Nay Aug Coal Company,	80,990
Hudson Coal Company,	67,362
Economy Light, Heat and Power Company,	29,115
Carney and Brown Coal Company,	21,782
No. 6 Coal Company,	6,781
Total,	3,279,786

Production by Counties

Lackawanna,	3,279,786

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Pennsylvania Coal Co.,	3	......	3	7	......	7	339,083	145,321	1,599	632	2,231	533	....	228	....
Delaware, Lackawanna and Western Railroad Co.,	7	......	7	11	......	11	83,471	53,118	1,385	316	1,701	198	....	126	....
Scranton Coal Co.,	7	......	7	3	......	3	93,001	217,003	1,175	267	1,412	168	....	392	....
Price-Pancoast Coal Co.,	4	......	4	17	1	18	159,352	37,495	1,187	252	1,439	297	....	70	252
Green Ridge Coal Co.,	......	......	......	2	......	2	....	50,069	165	72	237	....	....	83	....
Spencer Coal Co.,	......	1	1	2	......	2	....	41,830	134	73	207	....	73	67	....
Nay Aug Coal Co.,	......	......	......	1	......	1	....	80,990	191	35	226	....	....	191	....
Carney and Brown Coal Co.,	......	......	......	1	......	1	....	21,782	64	36	100	....	....	64	....
Miscellaneous Companies,	......	......	......	......	......	......	....	....	22	21	43	....	....	....	....
Totals and averages for district,	21	1	22	44	1	45	156,180	74,541	5,922	1,704	7,626	282	1,704	135	1,704

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of roof, ...	1	1	1	....	1	....	1	1	....	1	....	....	7	33.33
Mine cars, ...	....	1	....	1	....	....	1	2	1	....	1	....	7	33.33
Explosions of gas, ...	....	....	2	....	....	....	....	....	....	....	....	....	2	9.53
Blasts, premature and otherwise, ...	....	1	. .	....	....	1	....	....	1	1	1	....	5	23.81
Totals, ...	1	3	3	1	1	1	2	3	2	2	2	....	21	100.00
Causes of Accidents Outside														
Machinery, ...	....	1	....	....	....	....	....	....	....	....	....	....	1	100.00
Totals, ...	....	1	....	....	....	....	....	....	....	....	....	....	1	100.00
Grand totals inside and outside, ...	1	4	3	1	1	1	2	3	2	2	2	....	22	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	....	1	....	....	....	....	....	1	1	1	1	5	11.36
Falls of roof, ...	....	....	2	1	2	1	3	....	1	2	....	1	13	29.54
Mine cars, ...	3	....	3	1	2	1	1	3	1	1	....	2	18	40.91
Explosions of powder and dynamite, ...	1	....	....	....	....	....	....	....	....	1	....	....	2	4.55
Blasts, premature and otherwise, ...	1	1	....	....	....	....	....	1	....	....	....	....	3	6.82
Mules, ...	....	....	....	....	1	....	....	1	....	....	....	....	2	4.55
Struck by rock, ...	....	1	....	....	....	....	....	....	....	....	....	....	1	2.27
Totals, ...	5	2	6	2	5	2	4	5	3	5	1	4	44	100.00
Causes of Accidents Outside														
Cars, ...	....	....	....	....	....	....	....	1	....	....	....	....	1	100.00
Totals, ...	....	.. .	....	....	....	....	....	1	....	....	....	....	1	100.00
Grand totals inside and outside, ...	5	2	6	2	5	2	4	6	3	5	1	4	45	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	2	1	1	1	1	1	....	1	1	1	....	11
Miners' laborers,	....	....	2	....	....	....	....	1	....	1	....	....	4
Drivers and runners,	....	....	....	....	....	....	1	1	....	....	1	....	3
Doorboys and helpers,	....	1	....	....	....	....	....	....	....	....	....	....	1
Company men,	....	....	....	....	....	....	....	1	1	....	....	....	2
Totals,	1	3	3	1	1	1	2	3	2	2	2	....	21
Outside													
Foremen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Totals,	....	1	....	....	....	....	....	....	....	....	....	....	1
Grand totals inside and outside,	1	4	3	1	1	1	2	3	2	2	2	....	22

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	2	1	2	1	1	....	1	2	1	4	1	2	18
Miners' laborers,	1	....	1	....	1	1	1	....	2	....	....	....	7
Drivers and runners,	2	....	2	1	2	1	1	3	....	....	....	1	13
Doorboys and helpers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Company men,	....	1	....	....	....	....	1	....	....	....	....	....	2
Electricians,	....	....	1	....	....	....	....	....	....	....	....	....	1
Tracklayers,	....	....	....	....	1	....	....	....	....	....	....	....	1
Contractors,	....	....	....	....	....	....	....	....	....	....	..	1	1
Totals,	5	2	6	2	5	2	4	5	3	5	1	4	44
Outside													
Headmen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	....	....	....	....	....	....	....	1	....	....	....	....	1
Grand totals inside and outside,	5	2	6	2	5	2	4	6	3	5	1	4	45

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	1	....	....	....	....	....	1	....	1	....	....	3
Irish,	....	1	....	1	....	....	....	....	2	....	1	....	5
Polish,	....	....	2	....	....	1	....	1	....	....	....	....	4
Hungarian,	....	1	....	....	....	....	1	....	....	....	....	....	2
Italian,	1	1	....	....	....	....	....	....	....	....	....	....	2
Slavonian,	....	....	....	....	1	....	....	1	....	....	1	....	3
Lithuanian,	....	....	....	....	....	....	1	....	....	1	....	....	2
Tyrolean,	....	....	1	....	....	....	....	....	....	....	....	....	1
Totals,	1	4	3	1	1	1	2	3	2	2	2	....	22

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	1	1	1	....	....	....	1	....	....	....	....	5
English,	....	....	....	....	....	....	....	....	....	....	1	....	1
Irish,	....	1	1	....	....	1	2	....	....	....	....	1	6
German,	....	....	....	....	....	....	....	....	....	....	....	1	1
Polish,	1	....	2	....	1	....	1	2	....	3	....	....	10
Hungarian,	....	....	....	....	....	....	1	....	....	....	....	....	1
Italian,	....	....	....	....	1	....	....	....	1	....	....	2	4
Slavonian,	1	....	....	....	1	....	....	2	....	1	....	....	5
Lithuanian,	1	....	1	....	....	....	....	....	1	1	....	....	4
Austrian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Russian,	1	....	....	1	2	1	....	1	1	....	....	....	7
Totals,	5	2	6	2	5	2	4	6	3	5	1	4	45

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Pennsylvania Coal Co.																
Pennsylvania No. 1 Colliery:																
Pennsylvania No. 1, ...	Shaft, ...	Gaseous, ..	Fan, ...	20.0	6.5	5.42	75	1.5	Guibal, ...	Steam, ...	..	9	166,550	154,600	167,065	286
Gipsy Grove, ...	Shaft, ...	Non-gas., .	Fan, ...	17.67	5.0	5.25	70	.9	Guibal, ...	Steam, ...	..	2	26,020	24,150	27,900	76
Pennsylvania No. 2, ...	Drift, ...	Non-gas., .	Fan, ...	17.67	5.0	4.42	66	1.0	Guibal, ...	Steam, ...	..	7	93,700	86,900	101,700	257
Clark, ...	Slope, ...	Non-gas., .	Fan, ...	17.67	5.0	5.25	45	.3	Guibal, ...	Steam, ...	..	1	10,100	9,100	12,230	32
Marcy, ...	Slope, ...	Non-gas., .	Fan, ...	7.0	2.10	1.35	230	.5	Stine, ...	Electricity, .	..	2	21,700	17,400	27,090	44
Pennsylvania No. 5 Colliery:																
Pennsylvania No. 5, ...	Shaft, ...	Gaseous, .	2 Fans, .	20.0 17.67	6.5 5.0	5.42 5.25	75 60	1.5 .4	Guibal, ... Guibal, ...	Steam, ... Electricity, .		10	119,275	84,000	141,600	254
Delaware, Lackawanna and Western Railroad Co.																
Diamond No. 2 Colliery:																
Diamond No. 2, ...	Shaft, ...	Gaseous, ..	2 Fans, .	16.0 18.0	4.0 3.0	4.0 4.0	92 90	1.2 1.2	Guibal, ... Guibal, ...	Steam, ... Steam, ...		6	121,900	107,500	151,400	325
Diamond Tripp, ...	Shaft, ...	Gaseous, ..	Fan, ...	15.5	7.0	1.6 3.0 4.0	80	1.0	Jeffrey, ...	Steam, ...	..	6	134,240	111,955	141,540	405
Diamond Tripp, ...	Slope, ...	Non-gas., .	Fan, ...	15.5	7.0	3.6 4.0	80	1.0	Jeffrey, ...	Steam, ...	..	3	68,000	31,930	69,000	49
Diamond, ...	Drift, ...	Non-gas., .	Fan, ...	14.0	4.0	4.0	96	.9	Guibal, ...	Steam, ...	..	3	51,875	45,645	55,160	208

Manville Colliery:																
Manville, ...	Shaft, ...	Gaseous, ..	Fan, ...	20.0	5.0	5.0	72	1.0	Guibal, ...	Steam, ...	..	10	190,980	164,795	216,285	391
Scranton Coal Co.																
Pine Brook Colliery:																
Pine Brook, ...	Shaft, ...	Gaseous, ..	Fan, ...	17.6	5.0	6.	102	1.2	Guibal, ...	Steam, ...	..	13	205,250	190,000	250,000	878
Mount Pleasant Colliery:																
Mount Pleasant (Main),	Shaft, ...	Gaseous, ..	Fan, ...	20.0	5.6	6.9	60	.7	Guibal, ...	Steam, ...	..	7	164,000	159,000	181,000	180
Mount Pleasant (Surface), ...	Shaft, ...	Gaseous, .	Fan, ...	12.0	3.2	3.5	80	.5	Guibal, ...	Steam, ...	..	5	68,060	65,740	72,420	117
Price-Pancoast Coal Co.																
Pancoast Colliery::																
Pancoast, ...	Shaft, ...	Gaseous, .	3 Fans, .	35.0 20.0 20.0	11.6 6.0 6.0	9.6 5. 5.	47 90 70	1.5 2.4 1.2	Guibal, ...	Steam, ...	..	23	371,121	332,192	441,081	1187
Green Ridge Coal Co.																
Green Ridge Colliery:																
Green Ridge, ...	Slope, ...	Gaseous, .	Fan, ...	16.0	5.0	4.6	48	2.5	Guibal, ...	Steam, ...	..	9	90,540	71,720	108,750	152
Spencer Coal Co.																
Spencer Colliery:																
Spencer No. 1, ...	Shaft, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	10	29,200	23,400	31,000	93
Spencer No. 2, ...	Shaft, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	6	17,200	16,700	18,200	41
Nay Aug Coal Co.																
Nay Aug Colliery:																
Nay Aug No. 1, ...	Slope, ..	Non-gas.,	Natural, ..	......	......	......	......	......	....	....		1	27,300	25,700	27,800	73
Nay Aug, ...	Drift, ...											1	24,500	22,100	24,700	70
Nay Aug No. 3, ...	Drift, ...											1	20,400	17,600	21,600	48
Carney and Brown Coal Co.																
Carney and Brown Colliery:																
Carney and Brown, ...	Slope, ...	Non-gas., .	Furnace, ..	.....	....	......	......	......	....	....	32	1	13,696	13,845	13,845	64
No. 6 Coal Co.																
No. 6 Colliery:																
No. 6, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	.....	......	....	....	..	1	7,100	7,100	7,600	22

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Pennsylvania Coal Co.						
Pennsylvania Nos. 1 and 5, Underwood,*	Lackawanna,	Joseph P. Jennings,	Scranton,	Jesse Palmer,	Dunmore,	Erie
Delaware, Lackawanna and Western Railroad Co.						
Diamond, Manville, Diamond Washery,	Lackawanna,	C. E. Tobey,	Scranton,	Walter J. Reese, George J. Wethers,	Scranton, Scranton,	D. L. and W.
Scranton Coal Co.						
Pine Brook, Mount Pleasant,	Lackawanna,	W. L. Allen,	Peckville,	Daniel Young, Inside, J. F. Cummings, Outside,	Scranton,	O. and W.
Price Pancoast Coal Co.						
Pancoast,	Lackawanna,	John R. Bryden,	Scranton,	Joseph V. Birtley,	Scranton,	D. L. and W. and O. and W.
Green Ridge Coal Co.						
Green Ridge,	Lackawanna,	W. L. Connell,	Scranton,	W. L. Connell,	Scranton,	Erie and D. and H.
Spencer Coal Co.						
Spencer,	Lackawanna,	A. J. McHale,	Dunmore,	A. J. McHale,	Dunmore,	Erie
Nay Aug Coal Co.						
Nay Aug,	Lackawanna,	E. H. Leaning,	Scranton,	John A. Hines,	Scranton,	Erie
Hudson Coal Co.						
Manville,	Lackawanna,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Economy Light, Heat and Power Co.						
Economy Washery,	Lackawanna,	....	....	R. Van O'Linda,	Scranton,	D. and H.
Carney and Brown Coal Co.						
Carney and Brown,	Lackawanna,	John Carney,	Dunmore,	John J. Brown,	Dunmore,	D. L. and W.
No. 6 Coal Co.						
No. 6,	Lackawanna,	William Y. Moffatt,	Dunmore,	William Y. Moffatt,	Dunmore,	None

*New mine not yet in operation.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dyuamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Pennsylvania Coal Co.													
Pennsylvania No. 1,	Lackawanna,	627,323	40,366	2,238	669,927	303	1,291	1	4	761,350	....	25,292	91
Pennsylvania No. 5,		328,341	9,673	9,307	347,321	295	617	2	3	312,550	....	10,842	54
Underwood,		....	....	....	....	......	323	......	......	....	....	....	14
Totals,	....	955,664	50,039	11,545	1,017,248	......	2,231	3	7	1,073,900	....	36,134	159
Delaware, Lackawanna and Western Railroad Co.													
Diamond,	Lackawanna,	480,726	3,915	....	484,641	234	1,199	3	4	659,900	57,831	....	156
Manville,		54,785	16,049	819	71,653	102	452	4	7	185,750	14,326	....	49
Diamond Washery,		23,483	4,517	....	28,000	72	50	......	......	100	10	....	2
Totals,	....	558,994	24,481	819	584,294	......	1,701	7	11	845,750	72,167	....	207
Scranton Coal Co.													
Pine Brook,	Lackawanna,	438,101	27,950	5,417	471,468	218	1,055	2	......	660,000	20,600	....	107
Mount Pleasant,		154,972	22,500	2,070	179,542	179	387	5	3	299,850	10,670	....	42
Totals,	....	593,073	50,450	7,487	651,010	......	1,442	7	3	959,850	31,270	....	149
Price Pancoast Coal Co.													
Pancoast,	Lackawanna,	578,150	54,750	4,507	637,407	258	1,439	4	18	890,550	13,200	....	115

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Green Ridge Coal Co. Green Ridge,	Lackawanna,	70,647	7,112	22,378	100,137	189	237	.....	2	92,800	4,500	....	31
Spencer Coal Co. Spencer,	Lackawanna,	67,705	10,000	5,955	83,660	279	207	1	2	1,400	10,500	....	22
Nay Aug Coal Co. Nay Aug,	Lackawanna,	75,609	3,209	2,172	80,990	295	226	.....	1	14,325	5,789	....	25
Hudson Coal Co. Manville,	Lackawanna,	50,511	16,079	772	67,362	93	*						
Economy Light, Heat and Power Co. Economy Washery,	Lackawanna,	....	....	29,115	29,115	306	12	.....	.....	....	....	....	.....
Carney and Brown Coal Co. Carney and Brown,	Lackawanna,	12,890	90	8,802	21,782	151	100	.....	1	31,050	2,100	....	16
No. 6 Coal Co. No. 6,	Lackawanna,	455	16	6,310	6,781	158	31	.....	.....	....	....	2,300	7
Grand totals,	....	2,963,698	216,226	99,862	3,279,786	.....	7,626	22	45	3,909,425	139,506	38,434	731

*See D. L. and W. R. R. Co. report.

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Pennsylvania Coal Co.,	Lackawanna,	......	......	37	5,300	5,300	5	......	13	42	3,380	4	1,500	1,000	6	......
Delaware, Lackawanna and Western Railroad Co.,		9	933	4	2,000	2,933	4	......	2	45	3,209	16	7,618	6,783	......	......
Scranton Coal Co.,		12	180	11	1,945	2,125	1	......	8	26	2,725	6	4,026	2,650	3	4
Price-Pancoast Coal Co.,		......	......	11	1,835	1,835	......	......	......	24	1,693	3	4,000	2,500	2	2
Green Ridge Coal Co.,		......	......	9	1,125	1,125	......	......	3	8	594	......	......	......	......	......
Spencer Coal Co.,		11	375	4	475	850	......	......	......	14	750	......	......	......	......	......
Nay Aug Coal Co.,		......	......	3	240	240	......	......	......	4	130	......	......	......	......	......
Hudson Coal Co.,		......	......	......	......	....	......	......	......	6	225	......	......	......	......	......
Carney and Brown Coal Co.,		......	......	3	360	360	......	......	......	4	115	......	......	......	......	......
Totals,	....	32	1,488	82	13,280	14,768	10	......	26	173	12,621	29	17,144	12,933	11	6

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Pennsylvania Coal Co.,	Lackawanna,	5	12	1	476	538	129	31	6	259	142	1,599	1	3	100	34	96	20	3	375	632	2,231
Delaware, Lackawanna and Western Railroad Co.,		5	....	12	468	500	169	27	9	189	6	1,385	1	4	15	43	54	25	7	167	316	1,701
Scranton Coal Co.,		2	3	8	384	332	232	51	11	....	152	1,175	...	2	17	28	56	58	2	104	267	1,442
Price-Pancoast Coal Co.,		3	2	9	333	352	191	73	7	68	149	1,187	1	1	8	23	66	36	6	111	252	1,439
Green Ridge Coal Co.,		1	....	1	55	58	35	....	....	7	8	165	1	1	7	9	15	....	5	34	72	237
Spencer Coal Co.,		1	1	....	44	50	20	....	2	....	16	134	1	1	4	13	5	2	2	45	73	207
Nay Aug Coal Co.,		1	1	....	72	88	22	....	....	7	....	191	1	1	2	3	4	2	4	18	35	226
Hudson Coal Co.,*		....	....	....	......	......	....	....	....	....	....	......	...	....	....	....	....	....	....	......	.....	.....
Economy Light, Heat and Power Co.,		....	....	....	......	......	....	....	....	....	....	.....	...	1	..	....	....	....	....	11	12	12
Carney and Brown Coal Co.,		1	2	....	21	21	8	....	....	5	6	64	1	1	2	4	12	....	1	15	36	100
No. 6 Coal Co.,		1	....	....	8	8	4	1	....	....	....	22	...	1	....	....	3	....	1	4	9	31
Totals,	....	20	21	31	1,861	1,947	810	183	35	535	479	5,922	7	16	155	157	311	143	31	884	1,704	7,626

*Included in report of Delaware, Lackawanna and Western Railroad Co.

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Pennsylvania Coal Co.,	Lacakawanna,	26	23	25	24	26	25	25	26	25	25	24	25	299
Delaware, Lackawanna and Western Railroad Co.,		22	17	1	19	22	19	21	19	21	21	21	20	223
Scranton Coal Co.,		18	16	17	16	17	17	18	12	18	18	16	16	199
Price-Pancoast Coal Co.,		23	21	21	22	22	22	22	21	23	22	20	19	258
Green Ridge Coal Co.,		17	16	16	16	16	16	15	16	15	16	15	15	189
Spencer Coal Co.,		26	21	25	24	24	18	23	23	21	26	22	26	279
Nay Aug Coal Co.,		26	24	16	25	26	25	26	26	25	26	24	26	295
Hudson Coal Co.,		18	......	16	......	18	......	13	......	11	......	17	......	93
Carney and Brown Coal Co.,		21	18	16	7	......	......	......	18	17	18	17	19	151
No. 6 Coal Co.,		26	23	21	22	7	......	......	......	......	14	20	25	158

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	31	Frank Permatto,	Italian,	Miner,	25	M.	1	1	Mount Pleasant,	Lackawanna,	Instantly killed by fall of roof at face.
Feb.	3	John Sully,	Hungarian,	Miner,	30	M.	1	2	Pine Brook,		Instantly killed by blast fired on rib at face of chamber.
	18	William F. Pratt,	American,	Outside foreman,	43	S.	....	....	Spencer,		Instantly killed by machinery in breaker. Outside.
	19	Frank Blazine,	Italian,	Miner,	34	M.	1	1	Mount Pleasant,		Instantly killed by fall of roof at face.
	25	John Corrigan,	Irish,	Doortender,	69	M.	1	....	Pancoast,		Killed by mine cars on main road.
March	14	Andrew Blasuka,	Polish,	Laborer,	23	M.	1	1	Manville,		Fatally burned by gas at face while preparing for day's work.
		Anthony Kropkis,	Polish,	Miner,	26	M.	1	3	Manville,		Fatally burned by gas at face while preparing for day's work.
	31	Joseph Toat,	Tyrolean,	Laborer,	56	M.	1	....	Pancoast,		Killed by fall of roof at face of chamber while standing prop.
April	17	John Reedy,	Irish,	Miner,	45	M.	1	3	Pine Brook,		Fatally injured by derailed car.
May	26	John Wallace,	Slavonian,	Miner,	53	M.	1	4	Pennsylvania No. 1		Killed by fall of roof at face.
June	5	William Bannick,	Polish,	Miner,	42	M.	1	8	Mount Pleasant,		Instantly killed by delayed blast at face.
July	9	Tony Machinidis,	Lithuanian,	Driver,	17	S.	....	....	Diamond,		Fatally injured by being squeezed between car and timber on main road.
	23	John Barath,	Hungarian,	Miner,	48	M.	1	6	Pancoast,		Fatally injured by fall of roof at face. Concealed slips in roof.
Aug.	2	Leo Lavinski,	Polish,	Runner,	22	S.	....	....	Mount Pleasant,		Fatally injured by being run over by mine cars in chamber.
	15	Burt Jones,	American,	Company man	32	S.	....	....	Diamond,		Fatally injured by mine cars on main road.
	22	Peter Miller,	Slavonian,	Laborer,	42	S.	....	....	Manville,		Killed by fall of roof at face. Concealed slips in roof.
Sept.	23	John O'Toole,	Irish,	Miner,	45	M.	1	3	Diamond,		Killed by premature blast at face.
	24	Thomas Langan,	Irish,	Company man	45	S.	....	....	Pennsylvania No. 5		Fatally injured by mine cars on plane.
Oct.	11	Andrew Drozdus,	Lithuanian,	Laborer,	38	M.	1	4	Pancoast,		Fatally injured by flying coal from a blast.
	15	Anthony Igo,	American,	Miner,	31	M.	1	1	Pennsylvania No. 5		Fatally injured by fall of roof at face.
Nov.	13	Frank Philbin,	Irish,	Miner,	50	M.	1	3	Mount Pleasant,		Fatally injured by premature blast at face.
	26	Frank Therbock,	Slavonian,	Runner,	18	S.	....	....	Manville,		Fatally injured by being squeezed between car and rib on main road.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	3	John Hillson,	American,	Driver,	16	S.	Mount Pleasant,	Lackawanna,	Leg fractured by mine cars at face of chamber.
	15	Anthony Shritsky,	Russian,	Miner,	45	M.	Mount Pleasant,		Burned about face and hands at face of chamber.
	17	George Galombo,	Slavonian,	Laborer,	21	S.	Manville,		Knee injured by mine car at face.
		Frank Petraskovitch,	Polish,	Driver,	21	S.	Manville,		Ankle injured by mine car bumper on main road.
	28	Joseph Wallinkus,	Lithuanian,	Miner,	34	S.	Diamond,		Foot fractured by piece of flying coal from blast, 20 feet from face.
Feb.	11	Michael McNulty,	Irish,	Miner,	52	M.	Mount Pleasant,		Head and leg injured by premature blast at face.
	24	John McDonnell,	American,	Company man,	40	M.	Carney and Brown,		Leg fractured at face of chamber by fall of rock.
March	4	Frank Willint,	Lithuanian,	Miner,	36	M.	Pancoast,		Head and shoulders injured by fall of roof at face of chamber.
		Charles Bernatavige,	Polish,	Miner,	38	M.	Pancoast,		Rib fractured by fall of roof at face of chamber.
	10	Paul Mahalka,	Austrian,	Runner,	28	M.	Pancoast,		Leg fractured by mine cars on main road.
	20	Michael Morrison,	Irish,	Driver,	33	M.	Green Ridge,		Back bruised between top of mine car and set of timber on main road.
	21	Leister Shaffer,	American,	Electrician,	19	S.	Pennsylvania No. 5,		Ankle broken when caught between motor and ground on main road.
	22	Peter Stefonesky,	Polish,	Laborer,	43	M.	Pancoast,		Leg fractured by fall of top coal at face.
April	2	John Dregones,	Russian,	Miner,	37	M.	Pancoast,		Leg fractured by fall of roof in crosscut at face.
	16	Martin Lynch,	American,	Runner,	23	S.	Manville,		Hip bruised between door-post and car on main road.
May	7	Anthony Matacavitch,	Russian,	Driver,	16	S.	Manville,		Jaws lacerated when squeezed between mule and rib on main road.
	16	Louis Carlitt,	Italian,	Driver,	18	S.	Pennsylvania No. 5,		Arm and leg fractured between cars on main road.
	20	Joseph Smith,	Russian,	Laborer,	27	S.	Pancoast,		Chest and right leg bruised by fall of top rock at face.
	26	John Geogefski,	Polish,	Miner,	26	M.	Pancoast,		Back bone fractured by fall of roof at face.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
May 31	John Harsock,	Slavonian,	Tracklayer,	28	M.	Pancoast,	Lackawanna,	Jaw dislocated by mine cars on main road.
June 16	Michael Figil,	Russian,	Runner,	19	S.	Diamond,		Ankle dislocated by mine cars on main road.
20	Stanley Shidofsky,	Irish,	Laborer,	26	S.	Pennsylvania No. 1,		Leg fractured and arm bruised by fall of roof at face.
July 3	John Duggan,	Irish,	Company man,	30	M.	Pennsylvania No. 5,		Pelvis fractured by fall of roof on main road.
12	Thomas Kelly,	Irish,	Miner,	60	M.	Green Ridge,		Leg fractured by fall of roof at face.
17	Joseph Lenesky,	Polish,	Runner,	21	S.	Pancoast,		Leg fractured by mine cars on main road.
23	Frank Chesney,	Hungarian,	Laborer,	31	M.	Pancoast,		Seriously injured by fall of roof at face. Concealed slips in roof.
Aug. 2	Joseph Galenius,	Polish,	Miner,	50	M.	Manville,		Scalp lacerated and hip bruised by premature blast at face.
5	Frank Bezak,	Slavonian,	Driver,	17	S.	Pancoast,		Arm fractured. Kicked by mule in chamber.
9	Charles Ruda,	Slavonian,	Miner,	34	M.	Manville,		Scalp and back injured between mine car and gob in chamber.
12	Frank Zukoyak,	Polish,	Driver,	18	S.	Pancoast,		Head and back injured by mine cars on main road.
29	Albert Worley,	American,	Runner,	25	S.	Diamond,		Skull fractured between derailed car and timber at face of chamber.
30	Walter Rincovith,	Russian,	Headman,	20	S.	Pancoast.		Leg injured while removing mine car from cage on head of breaker. Outside.
Sept. 3	Jacob Kupsky,	Lithuanian,	Miner,	28	S.	Diamond,		Knee squeezed by mine cars while temporarily engaged at foot of shaft.
9	Guiseppi Vetalie,	Italian,	Laborer,	21	S.	Nay Aug.,		Leg fractured by fall of top coal at face.
20	John Kucyzinsky,	Russian,	Laborer,	43	S.	Pancoast,		Leg fractured by fall of roof at face.
Oct. 10	Frank Standchafki,	Polish,	Miner,	42	M.	Pennsylvania No. 1,		Arm fractured by fall of coal at face.
13	Roger Mackiwiecz,	Polish,	Miner,	33	M.	Pancoast,		Face and hands severely burned by powder becoming ignited while charging hole at face.
18	John Duggan,	Lithuanian,	Miner,	42	S.	Manville,		Face and scalp lacerated by fall of roof while replacing dislodged timber at face.
28	John Charnick,	Slavonian,	Doortender,	52	M.	Pancoast,		Head injured by mine cars on main road.
	George Forescavage,	Polish,	Miner,	37	M.	Pennsylvania No. 1,		Arm broken by fall of roof at face.

Nov.	11	Steve Nicholls,	English,	Miner,	40	M.	Pancoast,	Lackawanna,	Spine injured by fall of coal in pillar place.
Dec.	9	John Haggerty,	Irish,	Miner,	49	M.	Spencer,		Leg broken by fall of coal in pillar place.
	12	Carl Pilger,	German,	Runner,	33	S.	Pancoast,		Collar bone fractured by mine car at face.
	18	Leo Bound,	Italian,	Contractor,	42	M.	Pennsylvania No. 1,		Arm broken by fall of roof at face.
	24	Frank Johnson,	Italian,	Miner,	25	S.	Spencer,		Finger severed by mine car on main road.

CONDITION OF COLLIERIES

PENNSYLVANIA COAL COMPANY

PENNSYLVANIA NO. 1 COLLIERY

Pennsylvania No. 1. Shaft.—Ventilation, drainage and safety conditions good.

Gipsy Grove Shaft.—Ventilation fair, drainage and safety conditions good.

Pennsylvania No. 2 Drift.—Ventilation, drainage and safety conditions good.

Clark Slope.—Ventilation, drainage and safety conditions good.

Marcy Slope.—Ventilation, drainage and safety conditions good.

Pennsylvania No. 5:

Pennsylvania No. 5 Shaft.—Ventilation, drainage and safety conditions good.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Diamond No. 2 Colliery:

Diamond No. 2 Shaft.—Ventilation, drainage and safety conditions good.

Diamond Tripp Shaft.—Ventilation, drainage and safety conditions good.

Diamond Tripp Slope.—Ventilation fair; drainage and safety conditions good.

Diamond Drift.—Ventilation, drainage and safety conditions fair.

Manville.—Ventilation, drainage and safety conditions fair.

SCRANTON COAL COMPANY

Pine Brook Colliery:

Pine Brook Shaft.—Ventilation, drainage and safety conditions good.

Mount Pleasant Colliery:

Mount Pleasant Main Shaft.—Ventilation, drainage and safety conditions good.

Mount Pleasant Surface Shaft.—Ventilation, drainage and safety conditions fair.

PRICE-PANCOAST COAL COMPANY

Pancoast Colliery:

Pancoast Shaft.—Ventilation, drainage and safety conditions good.

GREEN RIDGE COAL COMPANY

Green Ridge Colliery:

Green Ridge Slope.—Ventilation, drainage and safety conditions fair.

SPENCER COAL COMPANY

Spencer Colliery:

Spencer No. 1 Shaft.—Ventilation good. Drainage and safety conditions fair.

Spencer No. 2 Shaft.—Ventilation good. Drainage and safety conditions fair.

NAY AUG COAL COMPANY

Nay Aug Colliery:

Nay Aug No. 1 Slope.—Ventilation good. Drainage and safety conditions fair.

Nay Aug Drift.—Ventilation good. Drainage and safety conditions fair.

Nay Aug No. 3 Drift.—Ventilation good. Drainage and safety conditions fair.

CARNEY AND BROWN COAL COMPANY

Carney and Brown Colliery:

Carney and Brown Slope.—Ventilation, drainage and safety conditions fair.

NO. 6 COAL COMPANY

No. 6 Colliery:

No. 6 Slope.—Ventilation and drainage good. Safety conditions fair.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Pennsylvania No. 1 Colliery.—Extensive repairs are being made to the breaker to make it more efficient.

A hospital on the surface has been provided.

In the Clark vein slope electric haulage has been substituted for mules.

Hospitals have been built in both the Marcy and Clark slopes. Electricity has been introduced into the workings at No. 2 shaft, the motor being placed in the 3rd Dunmore vein. Also installed a hoist and substation. In the 2nd Dunmore vein an electric hoist has been installed to haul the coal to the dip. An electric motor barn of fireproof construction has been built in the 3rd Dunmore vein.

Pennsylvania No. 5 Colliery.—1,000 feet of pipe line have been laid and a pump installed outside to pump the slush from the breaker into the old abandoned workings.

A hospital on the surface has been provided.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Diamond Colliery.—Installed a new 18 by 16 foot ventilating fan. A new steel tower has been built over Tripp shaft and a rock plane driven from Rock to Diamond vein.

Installed one 7-ton electric locomotive, a rock crusher, boiler feed pumps, and four flat slate-pickers.

A second opening has been driven between No. 3 and No. 2 Dunmore veins.

A new steam line has been laid between boiler plant and shaft.

A surface hospital and a new wash house are being provided.

SCRANTON COAL COMPANY

Pine Brook Colliery.—A rock plane 7 by 14 feet was driven from No. 2 Dunmore vein to No. 1 Dunmore vein, a distance of 375 feet. This was done to shorten the haulage and to develop No. 1 Dunmore vein.

A second opening, 80 feet long, was driven through the strata between No. 2 and No. 1 Dunmore veins at an angle of 45 degrees. This not only acts as a second opening, but also improves the ventilation. An air bridge or air "cross over" was cut in the rock in the west tunnel section in the Dunmore No. 1 vein, 6 by 12 feet by 37 feet, which gives an additional split of air in that section.

Mount Pleasant Colliery.—A rock plane from the 3rd or China vein to No. 1 Dunmore vein has been driven and fully equipped.

PRICE-PANCOAST COAL COMPANY

Pancoast Colliery.—Installed one steam duplex pump, 28 by 14 by 24 feet in No. 3 vein to pump water to surface. Steel support substituted for timber on foot branch in Dunmore vein.

A rock tunnel 90 feet long was made from Clark to New County vein for ventilation and second opening.

Engine plane 1,000 feet long was made from Clark into New County vein for transportation.

Installed one double inlet Jeffrey exhaust mine fan 20 by 7 feet, and one 28 by 28 inch Ridgway engine.

A surface hospital has been provided.

SPENCER COAL COMPANY

Spencer Colliery.—No. 1 and No. 2 shafts have been retimbered and a new tower built at No. 2 shaft. The tower at No. 1 shaft was cut down 20 feet during the year.

A surface hospital has been built, the washery retimbered and a new 125 H. P. engine installed in the washery to replace four small engines.

NAY AUG COAL COMPANY

Nay Aug Colliery.—Installed a 100-ton loading scale, jigs for egg, stove and nut coal, and new grates, blowers and boilers. A new washhouse has also been built.

CARNEY AND BROWN COAL COMPANY

Carney and Brown Colliery.—A rock tunnel was driven through 150 feet of fault in the Clark vein.

FOURTH DISTRICT

LACKAWANNA COUNTY

Scranton, Pa., February 14, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit my report as Inspector of Mines for the Fourth Anthracite District, for the year ending December 31, 1913.

Respectfully submitted,

J. T. REESE, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	13
Number of mines,	34
Number of mines in operation,	34
Number of tons of coal shipped to market,	3,808,356
Number of tons used at mines for steam and heat,	141,400
Number of tons sold to local trade and used by employes,	143,819
Number of tons produced,	4,093,575
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	6,800
Number of persons employed outside,	1,646
Number of fatal accidents inside of mines,	20
Number of fatal accidents outside,	5
Number of non-fatal accidents inside of mines,	78
Number of non-fatal accidents outside,	4
Number of tons of coal produced per fatal accident inside,	204,679
Number of tons produced per fatal accident outside,	818,715
Number of tons produced per fatal accident inside and outside,	163,743
Number of persons employed per fatal accident inside,	340
Number of persons employed per fatal accident outside,	329
Number of persons employed per fatal accident inside and outside,	338
Number of persons employed per non-fatal accident inside,	87
Number of persons employed per non-fatal accident outside,	412
Number of persons employed per non-fatal accident inside and outside,	103
Number of wives made widows,	20
Number of children made orphans,	45
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	8
Number of compressed air locomotives used inside,	....
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	96
Number of electric motors used outside,	7
Number of fans in use,	24
Number of furnaces in use,	....
Number of gaseous mines in operation,	21
Number of non-gaseous mines in operation,	13
Number of new mines opened,	....
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Delaware, Lackawanna and Western Railroad Company,	3,212,486
Hudson Coal Company,	268,898
Scranton Coal Company,	218,167
Thorne-Neale Washery Company,	151,196
Peoples Coal Company,	138,607
South Side Coal Company,	63,212
Premier Coal Company,	27,566
Carleton Coal Company,	8,372
Minooka Coal Company,	5,071
Total,	4,093,575

Production by Counties

Lackawanna,	4,093,575

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware, Lackawanna and Western Railroad Co.,	16	3	19	51	3	54	200,780	69,990	5,294	1,093	6,287	331	364	104	364
Hudson Coal Co.,	......	1	1	8	1	9	268,898	32,612	642	208	850	....	208	80	208
Scranton Coal Co.,	2	......	2	6	......	6	109,083	36,361	478	101	579	239	....	80	....
Thorne-Neale Washery Co.,	......	1	1	......	......	......	....	....	....	50	50	....	50	....	....
Peoples Coal Co.,	2	......	2	13	......	13	69,304	10,662	323	100	423	162	....	25	....
Miscellaneous Companies,	......	......	......	......	......	......	....	....	63	94	157	....	....	....	....
Totals and averages for district,	20	5	25	78	4	82	204,679	52,481	6,800	1,646	8,446	340	329	87	412

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	....	....	....	....	1	....	....	....	1	5.00
Falls of roof,	1	1	2	1	....	1	1	....	....	1	....	1	9	45.00
Mine cars,	...	....	....	....	....	....	...	2	....	1	....	....	3	15.00
Explosions of gas,	1	....	....	....	....	....	1	....	....	....	....	....	2	10.00
Suffocation by gas, etc.,	....	....	....	....	....	....	....	....	....	1	....	....	1	5.00
Explosions of powder and dynamite,	....	....	....	....	....	....	....	1	....	....	....	....	1	5.00
Blasts, premature and otherwise,	....	....	1	1	....	....	....	....	....	....	1	....	3	15.00
Totals,	2	1	3	2	....	1	2	3	1	3	1	1	20	100.00
Causes of Accidents Outside														
Cars,	....	1	....	1	....	....	....	....	....	....	....	....	2	40.00
Machinery,	....	1	....	....	....	....	....	....	....	....	....	....	1	20.00
Struck by cage,	....	...	....	....	....	....	....	....	....	1	....	....	1	20.00
Struck by iron post,	....	....	....	....	1	....	....	....	....	....	....	....	1	20.00
Totals,	....	2	....	1	1	....	....	....	....	1	....	....	5	100.00
Grand totals inside and outside,	2	3	3	3	1	1	2	3	1	4	1	1	25	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	1	1	....	....	....	....	....	....	1	....	3	3.85
Falls of slate,	1	....	....	....	....	....	....	....	2	....	....	....	3	3.85
Falls of roof,	1	1	2	3	....	3	1	2	2	3	5	1	24	30.77
Mine cars,	....	2	1	3	3	2	....	1	3	2	1	1	19	24.36
Explosions of gas,	2	....	....	1	1	....	....	1	....	....	2	....	7	8.98
Explosions of powder and dynamite,	....	....	....	....	1	....	....	....	....	....	....	....	1	1.28
Blasts, premature and otherwise,	1	2	1	1	....	1	2	1	....	1	....	....	10	12.82
Falling into chamber,	....	....	....	....	....	....	....	....	....	....	....	1	1	1.28
Machinery,	....	....	....	....	....	....	....	....	....	....	....	1	1	1.28
Mules,	1	....	1	....	....	....	1	....	....	....	....	....	3	3.85
Struck by door,	....	....	....	....	....	1	....	....	....	....	....	....	1	1.28
Struck by cage,	....	....	....	1	....	....	....	....	....	....	....	....	1	1.28
Struck by rope,	....	....	1	....	....	....	....	....	....	....	....	....	1	1.28
Struck by pipe,	....	1	....	....	....	....	....	....	....	....	....	....	1	1.28
Struck by timber,	1	....	....	....	....	....	....	....	....	....	1	....	2	2.56
Totals,	7	6	7	10	5	7	4	5	7	6	10	4	78	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	....	1	....	....	....	1	25.00
Machinery,	....	....	....	....	....	1	....	....	....	....	....	....	1	25.00
By falling,	....	....	....	....	....	....	....	....	....	1	....	....	1	25.00
Mules,	....	1	....	....	....	....	....	....	....	....	....	....	1	25.00
Totals,	....	1	....	....	....	1	....	....	1	1	....	....	4	100.00
Grand totals inside and outside,	7	7	7	10	5	8	4	5	8	7	10	4	82	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	1	3	1	....	1	1	1	1	1	1	....	12
Miners' laborers,	1	....	....	1	....	....	....	....	....	....	....	....	2
Drivers and runners,	....	....	....	....	....	....	....	....	....	1	....	1	2
Rockmen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Company men,	....	....	....	....	....	....	....	1	....	....	....	....	1
Brakemen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Track layers,	.. .	....	....	....	....	....	1	....	....	....	....	....	1
Totals,	2	1	3	2	....	1	2	3	1	3	1	1	20
Outside													
Foremen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Blacksmiths and carpenters,	....	....	....	....	....	....	....	....	....	1	....	....	1
Slatepickers, (boys)	....	1	....	....	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	....	1	....	....	....	....	....	....	....	1
Runners,	....	....	....	1	....	....	....	....	....	....	....	....	1
Totals,	...	2	....	1	1	....	....	....	....	1	....	....	5
Grand totals inside and outside,	3	3	3	3	1	1	2	3	1	4	1	1	25

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	3	2	2	3	3	4	2	2	3	2	6	1	33
Miners' laborers,	1	2	2	4	1	2	1	3	3	3	4	....	26
Drivers and runners,	1	....	2	2	....	....	1	....	....	1	....	1	8
Doorboys and helpers,	....	....	....	....	....	1	....	....	....	....	....	....	1
Carpenters,	....	....	....	....	....	....	....	....	....	....	....	1	1
Brakemen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Company men,	....	1	....	1	....	....	....	....	....	....	....	1	3
Motormen,	....	....	....	....	1	....	....	....	1	....	....	....	2
Rockmen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Masons,	2	....	....	....	....	....	....	....	....	....	....	....	2
Totals,	7	6	7	10	5	7	4	5	7	6	10	4	78
Outside													
Blacksmiths and carpenters,	....	....	....	....	....	1	....	....	....	....	....	....	1
Drivers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	....	1	....	....	....	....	....	....	1	....	....	....	2
Totals,	....	1	....	....	....	1	....	....	1	1	....	....	4
Grand totals inside and outside,	7	7	7	10	5	8	4	5	8	7	10	4	82

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	2	....	1	....	....	....	2	....	2	....	1	8
Welsh,	....	....	....	....	....	....	....	....	....	1	....	....	1
Irish,	....	....	2	....	....	....	1	....	1	1	....	....	5
German,	....	....	....	....	1	....	....	....	....	....	1	....	2
Polish,	1	1	....	2	....	....	1	1	....	....	....	....	6
Lithuanian,	1	....	....	....	....	....	....	....	....	....	....	....	1
Swedish,	....	....	....	....	....	1	....	....	....	....	....	....	1
French,	....	....	1	....	....	....	....	....	....	....	....	....	1
Totals,	2	3	3	3	1	1	2	3	1	4	1	1	25

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	3	3	2	....	....	2	....	1	1	1	1	2	16
English,	1	....	....	....	....	....	....	....	....	2	....	....	3
Welsh,	....	1	2	....	....	1	1	....	....	....	....	1	6
Irish,	1	....	....	1	1	....	....	....	2	....	1	1	7
Polish,	....	2	....	8	2	5	3	3	3	3	5	....	34
Italian,	2	....	2	....	....	....	....	1	....	....	2	....	7
Slavonian,	....	1	....	....	....	....	....	....	....	1	....	....	2
Lithuanian,	....	....	1	1	2	....	....	....	2	....	....	....	6
Swedish,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	7	7	7	10	5	8	4	5	8	7	10	4	82

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware, Lackawanna and Western Railroad Co.															
Bellevue Colliery:															
Bellevue, ...	Shaft, ...	Gaseous, ..	Fan, ...	16	4.5	4.5	126	1.1	Guibal, ...	Steam, ...	10	97,241	91,008	101,647	820
Bellevue, ...	Shaft, ...			14	4.0	4.0	112	.9			7	71,750	63,540	80,730	
Bellevue, ...	Slope, ..			14	4.0	4.0	112	.7			2	80,040	71,870	90,575	
Archbald Colliery:															
Archbald, ...	Shaft, ...	Gaseous, ..	Fan, ...	24	8	6	66	1.8	Guibal, ...	Steam, ...	18	224,940	238,430	271,700	832
Archbald, ...	Slope, ...	Gaseous, ..	Fan, ...	12	4	4	100	1.0	Open, ...	Steam, ...					
Sloan Colliery:															
Sloan, ...	Shaft, ...	Gaseous, ..	Fan, ...	24	8	6	70	2.1	Guibal, ...	Steam, ...	8	161,305	151,235	166,380	401
Sloan (Surface Vein), ..	Shaft, ...	Non-gas., .	Fan, ...	24	8	6	70	2.	Guibal, ...	Steam, ...	7	150,120	115,960	151,000	219
Sloan, ...	Slope, ..														
Central, ...	Shaft, ...	Gaseous, ..	Fan, ...	24	8	6	70	2.1	Guibal, ...	Steam, ...	7	134,880	128,400	137,400	305
Hyde Park Colliery:															
Hyde Park, ...	Shaft, ...	Gaseous, ..	Fan, ...	24	8	6	66	1.4	Guibal, ...	Steam, ...	11	182,900	126,900	193,300	464
Hyde Park (Central Vein), ...	Shaft, ...	Gaseous, ..	Fan, ...	14	4.5	4	116	1.3	Open, ...	Electricity, .	4	35,300	32,800	40,800	60
Hyde Park (Surface Vein), ...	Slope, ...	Non-gas., .	Fan, ...	14	4.5	4	81	.75	Guibal, ...	Electricity, .	5	87,650	71,240	96,850	148
Dodge Colliery:															
Dodge, ...	Shaft, ...	Gaseous, ..	Fan, ...	25	8	6.6	58	1.4	Vulcan, ...	Steam, ...	6	116,346	102,922	178,062	456
Dodge, ...	Slope, ...	Non-gas., .	Fan, ...	15	3.6	3	56	.7	Guibal, ...	Steam, ...	4	50,573	42,582	64,040	103
National Colliery:															
National, ...	Shaft, ...	Gaseous, ..	Fan, ...	25	8	7	60	1.1	Guibal, ...	Steam, ...	9	174,200	159,400	195,400	588
National, ...	Drift, ...														
National, ...	Slope, ..														
National, ...	Drift, ...	Gaseous, ..	Fan, ...	8	2.8	2.2	80	.5	Guibal, ...	Electricity, .	1	12,000	11,000	12,500	

Continental Colliery:															
Continental, ...	Shaft, ...	Gaseous, ..	Fan, ...	24	8	.6	70	2.0	Guibal, ...	Steam, ...	16	174,975	176,000	186,125	529
Holden Colliery:															
Holden, ...	Shaft, ...	Gaseous, ..	Fan, ...	25	8	6	56	1.1	Guibal, ...	Steam, ...	7	138,738	126,610	143,466	343
Hudson Coal Co.															
Greenwood Colliery:															
Greenwood No. 1 (New),	Shaft, ...	Gaseous, ..	Fan, ...	17	5	5	75	.4	Guibal, ...	Steam, ...	2	29,100	27,500	32,450	112
Greenwood No. 1 (Old),	Shaft, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	29,800	27,900	31,900	115
Greenwood Nos. 1 and 2,	Slope, ...	Non gas., .	Fan, ...	14	4	4	80	.4	Guibal, ...	Steam, ...	..	29,900	27,100	33,300	91
Greenwood Nos. 1 and 2,	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	32,700	30,700	34,900	44
Greenwood No. 8, ...	Drift	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	18,400	17,400	19,100	80
Greenwood No. 11, ...	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	9,100	8,500	10,200	30
Greenwood No. 12, ...	Shaft, ...	Gaseous, ..	Fan, ...	17	5	5	75	.7	Guibal, ...	Steam, ...	2	45,700	40,860	52,880	102
Greenwood No. 10, ...	Drift, ...	Non-gas., .	Fan, ...	11	3.25	2.5	70	.3	Guibal, ...	Steam, ...	..	15,000	14,040	16,500	37
Greenwood No. 14, ...	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	9,600	8,250	11,700	29
Scranton Coal Co.															
Capouse Colliery:															
Capouse No. 2, ...	Shaft, ...	Gaseous, ..	Fan, ...	20	5	5.6	75	1	Guibal, ...	Steam, ...	9	140,000	135,000	152,500	478
Capouse No. 1, ...	Shaft, ...	Gaseous, .	Fan, ...	18	4.10	5	80	1							
Peoples Coal Co.															
Oxford Colliery:															
Oxford, ...	Shaft, ...	Gaseous, ..	Fan, ...	16	6	5	95	.7	Vulcan, ...	Steam, ...	9	112,000	112,000	120,000	323
Carleton Coal Co.															
Carleton Colliery:															
Carleton, ...	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	5	27,000	26,400	29,000	31
Minooka Coal Co.															
Minooka Colliery:															
Minooka, ...	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	2	15,341	14,160	16,230	20

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Delaware, Lackawanna and Western Railroad Co.						
Bellevue,	Lackawanna,	C. E. Tobey,	Scranton,	David Lloyd,	Scranton,	D. L. and W.
Archbald,				T. J. Williams,		
Sloan,				T. J. Williams,		
Hyde Park,				T. J. Williams,		
Dodge,				David Lloyd,		
National,				David Lloyd,		
Continental,				T. J. Williams,		
Holden,				T. J. Williams,		
Washeries						
Archbald,	Lackawanna,	C. E. Tobey,	Scranton,	T. J. Williams,	Scranton,	D. L. and W.
Hyde Park,				T. J. Williams,		
Hampton,				George J. Wethers,		
Hudson Coal Co.						
Greenwood,	Lackawanna,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Greenwood Washery,						
Scranton Coal Co.						
Capouse,	Lackawanna,	W. L. Allen,	Peckville,	Daniel Young, Inside. J. F. Cummings, Outside.	Scranton,	O. and W.
Thorne-Neale Washery Co.						
Minooka Washery,	Lackawanna,	James B. Neale,	Minersville,	....	....	D. and H.
Peoples Coal Co.						
Oxford,	Lackawanna,	A. G. Bennett,	Scranton,	William McLaughlin,	Scranton,	D. L. and W.
South Side Coal Co.						
South Side Washery,	Lackawanna,	F. P. Benjamin,	Scranton,	....	....	D. and H.

Premier Coal Co. Premier Washery,	Lackawanna,	W. L. Schlager,	Scranton,	William Feathermare	Peckville,	L. and W. V.
Carleton Coal Co. Carleton,	Lackawanna,	John Gibbons,	Scranton,			Local trade
Minooka Coal Co. Minooka,	Lackawanna,	J. G. Hayes,	Scranton,			L. and W. V.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons, employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Delaware, Lackawanna and Western Railroad Co.													
Bellevue,	Lackawanna	553,452	400	28,398	582,250	[illegible]	965	5	6	645,300	23,455	....	44
Archbald,		491,194	13,645	86	504,925	[illegible]	949	2	7	614,000	8,175	....	97
Sloan,		423,760	192	467	424,419	[illegible]	1,362	5	11	657,950	59,240	....	29
Hyde Park,		310,368	21	25,607	335,399	247	798	2	7	591,750	47,100	....	39
Dodge,		293,832	12	....	293,844	277	674	1	11	466,150	32,353	....	40
National,		276,676	12,399	4,426	293,501	281	729	1	4	460,450	28,607	....	66
Continental,		234,066	52	2,181	236,299	275	647	1	4	312,225	19,972	....	67
Holden,		218,770	13,283	2,037	234,090	284	426	1	4	296,575	11,030	....	27
		2,802,118	40,007	62,602	2,904,727	......	6,241	18	54	4,044,400	229,932	....	409
Washeries													
Archbald,		165,513	6,800	....	172,313	197	58	......	......	....	....	....	......
Hyde Park,		80,259	....	....	80,259	243	29	......	......	....	....	....	......
Hampton,		55,187	....	....	55,187	43	53	......	......	....	....	....	......
Water Shaft,		....	....	....	....	......	6	1	......	....	....	....	......
		300,959	6,800	....	307,759	......	146	1	......	....	....	....	......
Totals,	....	3,103,077	46,807	62,602	3,212,486	......	6,387	19	54	4,044,400	229,932	....	409

Hudson Coal Co.													
Greenwood,	Lackawanna	219,287	43,627	2,508	265,420	[illegible]	[illegible]	1	9	19,301	74,643	....	117
Greenwood Washery,		2,145	1,333	....	3,478	7							
Totals,	....	221,432	44,958	2,508	268,898	......	840	1	9	19,301	74,643	....	117
Scranton Coal Co.													
Capouse,	Lackawanna,	191,673	23,500	2,994	218,167	[illegible]	79	2	6	281,250	22,500	....	63
Thorne Neale Washery Co.													
Minooka Washery,	Lackawanna,	132,804	18,250	142	151,196	281	50	1	......	....	....	....	1
Peoples Coal Co.													
Oxford,	Lackawanna,	62,560	7,846	68,201	138,607	217	[illegible]	2	13	9,500	12,600	....	71
South Side Coal Co.													
South Side Washery,	Lackawanna,	63,188	21	....	63,212	237	50	......	......	....	....	....	1
Premier Coal Co.													
Premier Washery,	Lackawanna,	27,551	15	....	27,566	[illegible]	[illegible]	......	......	....	....	....	27
Carleton Coal Co.													
Carleton,	Lackawanna,	1,000	....	7,372	8,372	[illegible]	[illegible]	......	......	8,125	670	....	5
Minooka Coal Co.													
Minooka,	Lackawanna,	5,071	....	....	5,071	[illegible]		......	......	....	....	....	5
Grand totals,	....	3,808,356	141,410	143,819	4,093,575	......	[illegible]	[illegible]	[illegible]	[illegible]	320,325	....	672

TABLE 2.— Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Delaware, Lackawanna and Western Railroad Co.,	Lackawanna,	......	......	19	3,027	3,027	3	......	96	102	12,609	20	16,325	8,466	11	1
Hudson Coal Co.,		15	402	10	1,800	2,202	5	......	......	60	1,962	9	5,000	2,500	1	2
Scranton Coal Co.,		......	......	7	1,075	1,075	.....	......	......	12	1,150	5	2,660	2,250	......	1
Thorne-Neale Washery Co.,		......	......	6	600	600	.....	......	......	10	480	....	....	....	......	......
Peoples Coal Co.,		......	......	5	1,500	1,500	.....	......	......	14	850	3	1,575	775	2	1
South Side Coal Co.,		......	......	2	80	80	.....	......	7	......	....	....	....	....	......	......
Minooka Coal Co.,		......	......	....	....	....	.....	......	......	......	....	....	....	....	3	......
Totals,	....	15	402	49	8,082	8,484	8	......	103	198	17,051	37	25,570	13,991	17	5

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Delaware, Lackawanna and Western Railroad Co., ...	Lackawanna,	14	12	46	1,791	1,858	296	136	43	188	910	5,294	....	13	53	76	271	28	27	625	1,093	6,387
Hudson Coal Co., ...		2	1	3	259	218	113	1	3	35	7	642	....	2	16	38	....	26	1	125	208	850
Scranton Coal Co., ...		1	1	4	147	120	81	15	6	....	103	478	....	1	7	12	14	23	1	43	101	579
Thorne-Neale Washery Co.,..		....	....	....	......	......	....	....	....	....	......	......	....	1	2	4	16	....	1	26	50	50
Peoples Coal Co., ...		1	1	2	96	130	41	9	3	40	......	323	1	1	7	9	20	3	6	53	100	423
South Side Coal Co., ...		..	....	....	......	......	....	....	....	....	......	......	....	2	1	2	....	....	2	43	50	50
Premier Coal Co., ...		..	....	....	......	......	....	....	....	....	......	......	....	1	....	2	....	2	1	16	22	22
Carleton Coal Co., ...		1	....	....	10	10	5	....	....	5	......	31	....	1	1	....	4	....	2	3	11	42
Minooka Coal Co., ...		1	....	....	12	14	2	....	....	3	......	32	....	....	....	2	7	1	1	....	11	43
Totals, ...	....	20	15	55	2,315	2,350	538	161	55	271	1,020	6,800	1	22	87	145	332	83	42	934	1,646	8,446

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Delaware, Lackawanna and Western Railroad Co.,	Lackawanna,	25	22	15	24	25	23	24	24	23	24	22	21	272
Hudson Coal Co.,		14	13	13	13	12	12	12	13	12	10	12	13	149
Scranton Coal Co.,		17	13	15	15	16	16	14	15	15	17	14	16	183
Peoples Coal Co.,		22	21	19	16	17	17	18	17	16	17	18	19	217
Carleton Coal Co.,		18	9	9	7	12	18	17	11	22	22	22	24	191
Minooka Coal Co.,		12	15	9	10	11	13	9	8	17	10	15	20	149

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	4	John Spiko, ...	Polish, ...	Laborer, ...	23	S.	....	....	Oxford, ...	Lackawanna, .	Fatally burned by explosion of gas in chamber.
	6	Frank Pitkua, ...	Lithuanian,	Miner, ...	54	M.	1	3	Capouse, ...		Killed by fall of roof at face of chamber.
Feb.	8	Otto Fritz, ...	American, ..	Foreman, ...	25	M.	1	3	Minooka, ...		Killed by machinery while oiling it when in motion. Outside.
	10	John Coyne, ...	American, ..	Slate picker,	14	S.	....	....	Greenwood, ...		Fatally injured by cars. Outside.
	17	Frank Pachele, ...	Polish, ...	Miner, ...	38	M.	1	4	Bellevue, ...		Instantly killed by fall of roof in chamber.
March	19	Mike Barlow, ...	French, ...	Miner, ...	56	M.	1	3	Bellevue, ...		Fatally injured by blast at face of chamber.
	22	John Manley, ...	Irish, ...	Miner, ...	53	M.	1	3	Bellevue, ...		Killed by fall of roof at face of gangway.
	28	William Kelley, ...	Irish, ...	Miner, ...	35	M.	1	3	Bellevue, ...		Killed by fall of roof at face of gangway.
April	5	Alexander Knapka, ..	Polish, ...	Miner, ...	30	M.	1	1	Sloan, ...		Killed by blast at face of chamber.
	13	Constantine Yomitchick.	Polish, ...	Laborer, ...	28	M.	1	1	Sloan, ...		Fatally injured by fall of roof at face of chamber.
		Frank Farrell, ...	American, ..	Runner, ...	21	S.	...	....	Dodge, ...		Killed by cars near breaker. Outside.
May	6	Charles Werner, ...	German, ...	Laborer, ...	50	M.	1	3	Sloan, ...		Instantly killed by being struck by an iron post. Outside.
June	16	Peter Nelson, ...	Swedish, ...	Miner, ...	54	M.	1	....	Hyde Park		Instantly killed by fall of roof at face of chamber.
July	17	James Donnelly, ...	Irish, ...	Track layer,	37	M.	1	....	Oxford, ...		Fatally burned by explosion of gas on gangway.
	21	Peter Gregret, ...	Polish, ...	Miner, ...	43	M.	1	5	Continental, ...		Killed by fall of roof at face of chamber.
Arg.	18	James Healy, ...	American, ..	Brakeman, ..	22	S.	....	....	Sloan, ...		Killed by runaway car in chamber.
	19	Albert Rowe, ...	American, ..	Company man	27	M.	1	....	Capouse, ...		Killed by cars at foot of shaft.
	23	Julius Goldoskie, ...	Polish, ...	Miner, ...	42	M.	...	....	Archbald, ...		Fatally burned by explosion of powder at face of chamber.
Sept.	29	Patrick Fitzhenry, ..	Irish, ...	Miner, ...	40	M.	1	1	Holden, ...		Fatally injured by fall of coal at face of chamber.
Oct	9	George Hoffman, ...	American, ..	Carpenter, ..	39	M.	1	6	Water Shaft, ..		Instantly killed by cage at landing of shaft. Outside.

TABLE 4.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Oct.	11	Thomas Carson, ...	American,...	Driver, ...	54	M.	1	1	Sloan, ...	Lackawanna,.	Instantly killed by cars on gangway.
	15	James Morgan, ...	Welsh, ...	Miner, ...	34	M.	1	3	Hyde Park, ...		Instantly killed by fall of roof at face of chamber.
	27	Patrick Igo, ...	Irish, ...	Rockman, ...	28	M.	1	1	National, ...		Asphyxiated by white damp at face of chamber.
Nov.	8	Henry Kline	German, ...	Miner, ...	58	M.	1	3	Bellevue, ...		Fatally injured by blast at face of chamber.
Dec.	22	George Dawse, ...	American, ..	Driver, ...	48	M.	1	1	Archbald, ...		Instantly killed by fall of roof on gangway.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	2	Toney Zaney, ...	Italian, ...	Miner, ...	34	M.	Oxford, ...	Lackawanna,.	Head injured by fall of slate at face of chamber.
	4	Patrick McManara, ..	American, ..	Mason, ...	55	S.	Oxford, ...		Burned about head by explosion of gas in chamber.
		James Walsh, ...	Irish, ...	Mason, ...	57	M.	Oxford, ...		Burned about head by explosion of gas in chamber.
		Bert Shank, ...	American, ..	Laborer, ...	40	M.	Hyde Park, ...		Severely injured by fall of roof at face of chamber.
	6	Dominick Velota, ...	Italian, ...	Miner, ...	32	M.	Oxford, ...		Arm fractured by blast at face of chamber.
	13	Thomas Casey, ...	American, ..	Driver, ...	17	S.	Greenwood, ...		Hand squeezed between mule and rib on gangway.
	17	Thomas Fletcher, ...	English, ...	Miner, ...	35	M.	Archbald, ...		Leg fractured by timber falling on him in chamber.
Feb.	5	Andrew Katrick, ...	Slavonian, ..	Laborer, ...	19	S.	Hyde Park, ...		Head injured by fall of roof at face of chamber.
	6	David L. Jenkins, ..	Welsh, ...	Miner, ...	36	M.	Dodge, ...		Severely injured by blast at face of chamber.
	12	John Brown, ...	Polish, ...	Miner, ...	32	S.	Dodge, ...		Slightly injured by blast in chamber.
	14	George Deal, ...	American, ..	Company man, ..	36	M.	Holden, ...		Ankle fractured by pipe falling on him on gangway.
	15	Balac Pototski, ...	Polish, ...	Laborer, ...	24	S.	Greenwood, ...		Slightly injured by cars at face of chamber.
	17	Anthony Hart, ...	American, ..	Laborer, ...	29	S.	Greenwood, ...		Arm fractured by being kicked by mule. Outside.
March	3	Thomas Phillips, ...	American, ..	Brakeman, ...	20	S.	Dodge, ...		Finger crushed by cars on gangway.
		Biadyo Foster, ...	Italian, ...	Laborer, ...	18	S.	Oxford, ...		Leg broken by fall of coal at face of pillar.
	4	John W. Davis, ...	Welsh, ...	Runner, ...	58	M.	Dodge, ...		Leg broken by cars on gangway.
	12	Ross Evans, ...	Welsh, ...	Laborer, ...	26	M.	Bellevue, ...		Leg fractured by fall of roof at face of chamber.
	17	Owen Grogan, ...	American, ..	Rockman, ...	34	M.	National, ...		Leg fractured by tail rope striking him at foot of shaft.
	19	Matty Emmershy, ..	American, ..	Driver, ...	23	S.	Oxford, ...		Head injured by being kicked by mule at face of chamber.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
March 22	Ignatz Malconig, ...	Lithuanian,	Miner, ...	36	M.	Capouse, ...	Lackawanna, .	Rib fractured by fall of roof at face of chamber.
28	Joe Cocre, ...	Italian, ...	Miner, ...	27	S.	National, ...		Leg fractured by blast in cross-cut.
April 5	John Lesho, ...	Polish,......	Driver, ...	17	S.	Archbald, ...		Seriously injured by fall of roof at face of chamber.
	John Buchak, ...	Polish,......	Laborer, ...	27	M.	Sloan, ...		Seriously injured by blast at face of chamber.
7	Joseph Mozeskie, ...	Polish,......	Miner, ...	37	M.	Greenwood, ...		Ribs fractured by cars at foot of shaft.
12	Andy Ring, ...	Polish,......	Miner, ...	34	M.	Oxford, ...		Back and arms burned by gas at face of chamber.
14	George Pensuick, ...	Polish,......	Laborer, ...	45	M.	Archbald, ...		Leg crushed by cars at face of chamber.
21	Andrew Kajinsky, ..	Polish,......	Laborer, ...	42	M.	Oxford, ...		Seriously injured by fall of roof at face of chamber.
	Stanley Viccoskie, ..	Polish,......	Miner, ...	40	M.	Archbald, ...		Toe crushed by cage at foot of shaft.
26	Walter Alasky, ...	Polish,......	Driver, ...	20	S.	Oxford, ...		Hips injured by cars on gangway.
29	William McHale, ...	Irish, ...	Company man, ..	49	M.	Capouse, ...		Pelvis broken by fall of coal on gangway.
30	Joseph Janush, ...	Lithuanian,	Laborer, ...	34	M.	Hyde Park, ...		Ribs fractured by fall of roof at face of chamber.
May 15	Martin Colosisky, ...	Lithuanian,	Miner, ...	32	M.	Capouse, ...		Severely injured by explosion of dynamite cap at face of chamber.
	Adam David, ...	Polish,......	Laborer, ...	22	M.	Continental, ...		Arm broken by cars at face of chamber.
22	Mike Ruddy, ...	Irish, ...	Miner, ...	39	M.	Sloan, ...		Severely burned by gas at face of chamber.
	Walter Balsuravits, ..	Polish,......	Motorman, ...	19	S.	Hyde Park, ...		Arm bruised by cars at face of chamber.
24	Peter Katulis, ...	Lithuanian,	Miner, ...	34	M.	Capouse, ...		Hips injured by cars on gangway.
June 14	John Keilbaca, ...	Polish,......	Laborer, ...	30	M.	Bellevue, ...		Severely injured by cars in chamber.
18	Thomas Mesefesto, ..	Polish,......	Miner, ...	42	M.	Bellevue, ...		Scalp lacerated by fall of roof at face of chamber.
19	William J. Williams,	Welsh,......	Miner, ...	41	M.	Sloan, ...		Leg fractured by fall of roof at face of chamber.
20	Frank Snopproskie, ...	Polish,......	Miner, ...	36	M.	Continental, ...		Severely injured by blast at face of chamber.
21	Robert Williams, ...	American, ..	Carpenter, ...	33	M.	Sloan, ...		Leg broken by machinery in the breaker. Outside.

June	24	Edwin Wagstaff,	American,	Door boy,	20	S.	Sloan,	Lackawanna,	Fingers crushed by door on gangway.
	25	John Sobuskee,	Polish,	Miner,	39	M.	Archbald,		Ribs fractured by fall of roof at face of chamber.
	27	Barney Bendofskie,	Polish,	Laborer,	26	S.	Hyde Park,		Leg fractured by cars at face of chamber.
July	1	Andrew Patro,	Polish,	Driver,	19	S.	Oxford,		Kicked on forehead by mule in chamber.
	16	John Wascanlde,	Polish,	Laborer,	36	M.	Sloan,		Leg fractured by fall of roof at face of chamber.
	29	David Davis,	Welsh,	Miner,	35	M.	Achbald,		Seriously injured by blast at face of chamber.
		Costie Snorskie,	Polish,	Miner,	28	M.	Greenwood,		Seriously burned by blast at face of chamber.
Aug.	7	Patrick J. Durkin,	American,	Laborer,	35	M.	Sloan,		Ribs fractured by cars at face of old rock chamber.
		Aleck Paplicki,	Polish,	Miner,	42	M.	Continental,		Pelvis fractured by blast in airway.
	11	Feto Pinpelo,	Italian,	Laborer,	32	S.	Oxford,		Seriously burned by gas in chamber.
	15	Frank Modack,	Polish,	Laborer,	19	S.	Bellevue,		Leg fractured by fall of roof at face of chamber.
	18	Edward Rapapski,	Polish,	Miner,	45	M.	Continental,		Foot fractured by fall of roof at face of chamber.
Sept.	12	Edward Campbell,	American,	Motorman,	32	W.	Hyde Park,		Hips injured by cars at face of heading.
	16	Edward Nickelett,	Polish,	Laborer,	47	M.	Dodge,		Seriously injured by cars near face of chamber.
		Anthony Bonenis,	Lithuanian,	Laborer,	31	M.	Capouse,		Leg broken by fall of slate at face of chamber.
	17	Mike Kalko,	Polish,	Miner,	41	M.	Dodge,		Leg broken by fall of slate at face of chamber.
		Micluneas Caritch,	Lithuanian,	Laborer,	33	M.	Dodge,		Finger broken by cars. Outside.
	20	Joseph Bodonsky,	Polish,	Laborer,	31	S.	National,		Leg broken by cars at face of chamber.
		Thomas Ford,	Irish,	Miner,	44	M.	Greenwood,		Severely injured by fall of roof at face of chamber.
	30	Patrick Gibbons,,	Irish,	Miner,	65	M.	Archbald,		Seriously injured by fall of roof at face of chamber.
Oct.	1	Marian Blader,	Polish,	Miner,	35	M.	Greenwood,		Seriously injured by fall of roof at face of chamber
	3	Lynn Mayberry,	English,	Laborer,	23	S.	Dodge,		Spine fractured by fall of roof at face of chamber.
	4	Michael J. Joyce,	American,	Driver,	16	S.	Dodge,		Fingers crushed by cars on gangway.
	6	William Olznaskie,	Polish,	Miner,	38	M.	National,		Leg fractured by cars at face of chamber.
	18	Harry Hughes,	English,	Driver,	23	M.	Dodge,		Head injured by falling off mule. Outside.
	22	Peter Novick,	Polish,	Laborer,	50	M.	Holden,		Arm fractured by premature blast at face of chamber.
	24	Frank Blashton,	Slavonian,	Laborer,	28	M.	Holden,		Leg fractured by fall of roof at face of chamber.
Nov.	5	Constant Ruffonski,	Polish,	Laborer,	45	M.	Holden,		Leg fractured by fall of roof at face of gangway.
	8	Kalebest Kraesy,	Polish,	Laborer,	22	S.	Bellevue,		Slightly burned by gas at face of chamber.
		William Gabe,	American,	Miner,	49	M.	Bellevue,		Slightly burned by gas at face of chamber.
		John Ourevider,	Swedish,	Miner,	45	M.	Sloan,		Leg fractured by timber falling on him at face of chamber.
	13	John Gluke,	Polish,	Miner,	38	M.	Oxford,		Back and hips injured by fall of roof at face of chamber.

TABLE 5.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Nov.	13	Patrick Kearney,	Irish,	Laborer,	30	S.	Oxford,	Lackawanna,	Injured by fall of roof at face of chamber.
	18	Charles Alinskie,	Polish,	Laborer,	29	M.	Sloan,		Leg fractured by cars at face of chamber.
	22	Felix Peteronto,	Italian,	Miner,	46	M.	Greenwood,		Rib fractured by fall of roof at face of chamber.
	26	Anthony Dumeskie,	Polish,	Miner,	45	M.	Hyde Park,		Leg fractured by fall of roof at face of chamber.
		John Fanelli,	Italian,	Miner,	23	S.	Sloan,		Legs fractured by fall of coal at face of chamber.
Dec.	1	John Linney,	American,	Carpenter,	25	M.	Greenwood,		Finger crushed by machinery on gangway.
	11	Patrick Joyce,	Irish,	Miner,	42	M.	Sloan,		Leg fractured by falling in chamber.
	22	Thomas Morris,	American,	Driver,	25	S.	Capouse,		Slightly injured by cars on gangway.
		William D. Thomas,	Welsh,	Company man,	53	M.	Dodge,		Leg fractured by fall of roof in chamber.

CONDITION OF COLLIERIES

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Bellevue, Archbald, Sloan, Hyde Park, Dodge, National, Continental and Holden Collieries.—Ventilation, drainage and condition as to safety good.

HUDSON COAL COMPANY

Greenwood Colliery.—Ventilation, drainage and condition as to safety good.

SCRANTON COAL COMPANY

Capouse Colliery.—Ventilation, drainage and condition as to safety good.

PEOPLES COAL COMPANY

Oxford Colliery.—Ventilation, drainage and condition as to safety good.

CARLETON COAL COMPANY

Carleton Colliery.—Ventilation, drainage and condition as to safety good.

MINOOKA COAL COMPANY

Minooka Colliery.—Ventilation, drainage, and condition as to safety good.

IMPROVEMENTS

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Bellevue Colliery.—Installed one rock pulverizer to be used to crush the rock from the breaker and have it flushed into the mines, and one new Corliss breaker engine to replace old engine.

Completed one rock tunnel from No. 2 to No. 1 Dunmore to develope No. 1 Dunmore vein, and new air shaft and engine house. Are installing fan and engine to replace old fan and engine.

Installing a fire escape on breaker. There will be several exits in case of fire.

National Colliery.—Installed an endless rope haulage system at foot of shaft for the purpose of conveying the coal, and a fan at the old Stafford workings. Completed the track and electric equipment, and tunnel from No. 2 to No. 1 Dunmore vein near Meadow Brook shaft to develop No. 1 Dunmore vein. Made a tunnel from Clark to New County vein to develop a section of the New County vein.

Made second opening tunnel from No. 1 Dunmore vein to Clark vein and second opening from Clark vein to New County vein for ventilating purposes.

Dodge Colliery.—The main shaft has been made wider in order to use a larger car and an endless rope installed from the shaft to the breaker to handle the mine cars.

Holden Colliery.—Cleaned the shaft to the No. 2 Dunmore vein and installed an electric signal system. Sunk air shaft from the surface to the Rock vein. Installed a fan and engine and are building fan house. Completed tunnel through fault in the Diamond vein to develop the top split of Diamond vein.

Sloan Colliery. At Sloan shaft a water tunnel, 7 by 10 by 850 feet, was driven to carry water from the Holden and other places to Hampton water shaft.

Installed fire escape on breaker, and railed off all hoisting engines.

HUDSON COAL COMPANY

Greenwood Colliery.—A new washery has been added to the breaker.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Scranton, June 16 and 17. The Board of Examiners was composed of Jenkin T. Reese, Mine Inspector, Scranton; Joseph P. Jennings, Superintendent, Moosic; James W. Reese, Miner, Scranton; and William J. Jenkins, Miner, Scranton.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

James Alexander, John Davies, James Degnall, Thomas Goodfellow, Luther E. Harris, Evan Jones, Henry Jones, George Jones, John Jones, Richard Jones, Stephen Martin, William Mildiz, Isaac Morgan, Frank Mulrooney, Rees T. Reese, Scranton; Hugh B. Garvin, Old Forge.

ASSISTANT MINE FOREMEN

Nelson Anderson, Evan R. Davis, Myron Albert Evans, John P. Gallagher, Benjamin F. Hughes, William King, William Knox, Philip McAndrew, Edward E. Roberts, James Sharples, Ernest Telford, William Witzel, Thomas Robson, Scranton.

FIFTH DISTRICT

LACKAWANNA AND LUZERNE COUNTIES

Rendham, Pa., February 20, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir:—I have the honor to transmit my report as Inspector of Mines for the Fifth Anthracite District, for the year ending December 31, 1913, as required by the Act of April 14, 1903.

Respectfully submitted,

AUGUSTUS McDADE, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	12
Number of mines,	33
Number of mines in operation,	31
Number of tons of coal shipped to market,	2,964,871
Number of tons used at mines for steam and heat,	248,999
Number of tons sold to local trade and used by employes,	43,139
Number of tons produced,	3,257,009
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	5,213
Number of persons employed outside,	1,578
Number of fatal accidents inside of mines,	20
Number of fatal accidents outside,	....
Number of non-fatal accidents inside of mines,	41
Number of non-fatal accidents outside,	2
Number of tons of coal produced per fatal accident inside,	162,850
Number of tons produced per fatal accident outside,	....
Number of tons produced per fatal accident inside and outside,	162,850
Number of persons employed per fatal accident inside,	261
Number of persons employed per fatal accident outside,	....
Number of persons employed per fatal accident inside and outside,	340
Number of persons employed per non-fatal accident inside,	127
Number of persons employed per non-fatal accident outside,	789
Number of persons employed per non-fatal accident inside and outside,	158
Number of wives made widows,	16
Number of children made orphans,	25
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	10
Number of compressed air locomotives used inside,	....
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	63
Number of electric motors used outside,	....
Number of fans in use,	24
Number of furnaces in use,	....
Number of gaseous mines in operation,	13
Number of non-gaseous mines in operation,	18
Number of new mines opened,	1
Number of old mines abandoned,	3

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Pennsylvania Coal Company,	1,218,695
Delaware, Lackawanna and Western Railroad Company,	1,011,270
Jermyn and Company,	507,620
Elliott, McClure and Company,	212,887
Hillside Coal and Iron Company,	165,193
Hudson Coal Company,	127,252
Lehigh Valley Coal Company,	13,347
Moosic Coal Company,	745
Total,	3,257,009

Production by Counties

Lackawanna,	2,494,395
Luzerne,	762,614
Total,	3,257,009

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Pennsylvania Coal Co.,	6	......	6	8	2	10	203,116	152,337	1,680	606	2,286	280	....	210	303
Delaware, Lackawanna and Western Railroad Co.,	7	......	7	18	......	18	144,467	56,182	1,667	431	2,098	238	....	93	....
Jermyn and Co.,	......	......	......	1	......	1	....	507,626	778	181	959	....	....	778	....
Elliott, McClure and Co.,	6	......	6	7	......	7	35,481	30,412	523	123	646	87	....	75	....
Hillside Coal and Iron Co.,	1	......	1	1	......	1	165,193	165,193	278	106	384	278	....	278	....
Hudson Coal Co.,	......	......	......	4	......	4	....	31,813	245	118	363	....	....	61	....
Lehigh Valley Coal Co.,	......	......	......	2	......	2	....	6,674	30	7	37	....	....	15	....
Miscellaneous Companies,	......	......	......	......	......	......	....	....	12	6	18	....	....	....	....
Totals and averages for district,	20	......	20	41	2	43	162,850	79,439	5,213	1,578	6,791	261	....	127	789

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of roof, ...	....	2	....	....	....	3	1	2	1	1	....	1	11	55.00
Mine cars, ...	....	2	....	....	....	....	....	1	....	1	....	....	4	20.00
Explosions of powder and dynamite, ...	....	....	....	....	....	....	....	1	....	1	....	1	3	15.00
Blasts, premature and otherwise, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	5.00
Struck by rock, ...	....	....	....	....	1	....	....	....	....	....	....	....	1	5.00
Totals, ...	....	4	....	....	1	3	1	4	1	4	....	2	20	100.00
Causes of Accidents Outside (No Accidents)														

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	....	....	....	....	....	....	....	....	....	1	....	1	2.44
Falls of roof, ...	1	1	2	....	....	2	3	1	3	2	1	....	16	39.02
Mine cars, ...	....	....	1	1	1	3	....	2	....	1	....	1	10	24.39
Explosions of gas, ...	....	....	...	....	....	....	1	....	....	....	....	....	1	2.44
Explosions of powder and dynamite, ...	....	....	....	1	....	....	....	....	....	1	....	....	2	4.88
Blasts, premature and otherwise, ...	....	....	....	1	....	....	....	....	1	....	1	....	3	7.31
Struck by piece of coal,	....	....	....	1	....	....	....	....	....	....	....	....	1	2.44
Struck by piece of rock, ...	....	....	....	1	1	....	....	....	....	....	....	....	2	4.88
By falling, ...	1	....	....	....	....	....	....	....	....	....	....	....	1	2.44
Mules, ...	....	1	....	....	....	....	....	....	....	....	....	....	1	2.44
Machinery, ...	....	....	....	....	1	....	....	....	....	....	....	....	1	2.44
Struck by rope, ...	....	....	....	....	....	1	....	....	....	....	....	....	1	2.44
Struck by timber, ...	....	....	....	....	....	....	....	....	....	....	....	1	1	2.44
Totals, ...	2	2	3	5	3	6	4	3	4	4	3	2	41	100.00
Causes of Accidents Outside														
Struck by piece of coal,	....	....	....	....	....	....	....	....	....	1	....	....	1	50.00
By falling, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	50.00
Totals, ...	....	...	....	....	....	....	....	....	....	2	....	....	2	100.00
Grand totals inside and outside, ...	2	2	3	5	3	6	4	3	4	6	3	2	43	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	1	....	....	....	2	....	2	1	....	....	2	8
Miners' laborers,	....	1	....	....	1	1	1	1	....	3	....	....	8
Drivers and runners,	....	1	....	....	....	....	....	....	....	....	....	....	1
Company men,	....	1	....	....	....	....	....	....	....	....	....	....	1
Headmen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Motormen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	....	4	....	....	1	3	1	4	1	4	....	2	20
Outside (No Accidents)													

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	1	1	2	....	1	2	1	3	3	2	1	17
Miners' laborers,	2	1	1	2	1	1	2	1	....	....	1	....	12
Drivers and runners,	....	....	1	....	1	3	....	....	....	1	....	....	6
Doorboys and helpers,	....	....	....	1	....	....	....	....	....	....	....	1	2
Machine runners,	....	....	....	....	1	....	....	....	....	....	....	....	1
Company men,	....	....	....	....	....	....	....	....	1	....	....	....	1
Motormen,	....	....	....	....	....	1	....	....	....	....	....	....	1
Rope riders,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	2	2	3	5	3	6	4	3	4	4	3	2	41
Outside													
Slatepickers (boys),	....	....	....	....	....	....	....	....	....	1	....	....	1
Platemen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Totals,	....	....	....	....	....	....	....	....	....	2	....	....	2
Grand totals inside and outside,	2	2	3	5	3	6	4	3	4	6	3	2	43

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	3	....	....	....	....	....	1	....	....	....	....	4
English,	....	....	....	....	....	....	....	....	....	1	....	....	1
Welsh,	....	....	....	....	....	....	....	....	....	1	....	1	2
Irish,	....	....	....	....	....	1	....	....	....	....	....	....	1
Polish,	....	....	....	....	1	....	....	2	1	1	....	1	6
Italian,	....	1	....	....	....	2	....	....	....	....	....	....	3
Lithuanian,	....	....	....	....	....	....	....	1	....	....	....	....	1
Russian,	....	....	....	....	....	....	1	....	....	1	....	....	2
Totals,	...	4	....	....	1	3	1	4	1	4	....	2	20

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	2	....	1	3	....	1	....	1	....	....	9
English,	....	....	....	....	....	....	....	1	....	....	....	....	1
Welsh,	....	....	....	....	1	....	....	....	....	....	....	1	2
German,	....	....	....	....	....	1	....	1	1	....	....	....	3
Polish,	1	1	....	2	....	1	3	....	3	2	3	1	17
Italian,	....	....	....	2	....	....	....	....	....	1	....	....	3
Slavonian,	....	1	...	1	....	....	....	....	....	....	....	....	2
Lithuanian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Austrian,	....	....	....	....	1	....	1	....	....	....	....	....	2
Russian,	....	....	....	....	....	1	....	....	....	1	....	....	2
Swiss,	....	....	....	....	....	....	....	....	....	1	....	....	1
Totals,	2	2	3	5	3	6	4	3	4	6	3	2	43

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Pennsylvania Coal Co.															
Old Forge Colliery:															
No. 1,	Shaft,	Non-gas.	Fan,	17.	4.5	4.5	24	.2	Guibal,	Steam,	2	20,700	19,400	22,000	38
No. 1,	Slope,			20.	6.5	5.42	52	.9	Guibal,	Steam,	5	65,700	60,800	68,700	138
No. 2,	Shaft,			20.	6.5	5.42	55	1.0	Guibal,	Electricity,	5	93,915	82,460	105,370	196
Mountain (Clark Vein)	Drift,			20.	6.5	5.42	59	1.0	Guibal,	Electricity,	10	143,915	126,925	158,860	524
Mountain (Marcy Vein)															
*Coray,	Slope,			14.	4.0	4.0	70	.5	Guibal,	Electricity,	3	39,700	35,535	39,960	64
Central Colliery:															
Laws,	Slope,	Non-gas.,	Fan,	20.	6.5	5.42	50	.5	Guibal,	Steam,	6	90,600	78,200	98,000	269
Laws,	Shaft,	Gaseous,													
No. 12,	Shaft,	Gaseous,	Fan,	20.	6.5	5.42	60	.6	Guibal,	Steam,	2	61,800	57,150	80,500	57
Delaware, Lackawanna and Western Railroad Co.															
Pyne Colliery:															
Pyne,	Shaft,	Gaseous,	Fan,	16.	5.	4.5	90	.9	Guibal,	Steam,	10	241,200	192,700	253,100	633
Pyne,	Slope,	Gaseous,	Fan,	24.	8.	6.0	72	1.6							
Taylor Colliery:															
Taylor,	Shaft,	Gaseous,	Fan,	25.	8.	7.	60	1.0	Guibal,	Steam,	10	274,135	210,790	302,440	595
Taylor,	Slope,														
Halstead Colliery:															
Halstead,	Shaft,	Gaseous,	2 Fans,	18.	4.	6.33	114	1.8	Guibal,	Steam,	9	115,011	106,700	120,300	300
				12.	3.5	3.0	56	.6	Guibal,	Steam,	1	9,230	8,420	2,200	36
Halstead,	Drift,	Non-gas.,	Fan,	12.	3.25	4.5	44	.4	Guibal,	Steam,	1	12,800	11,700	17,925	10

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*New opening.

Jermyn and Co.															
Jermyns Colliery:															
No. 1,	Shaft,	Gaseous,	Fan,	14.	4.5	4.0	90	1.1	Guibal,	Steam,	5	93,780	†	117,500	778
No. 1,	Slope,	Gaseous,													
No. 2,	Shaft,	Gaseous,	Fan,	18.	4.25	6.0	90	1.4	Guibal,	Steam,	6	104,500	†	105,400	
No. 2,	Slope,	Non-gas.													
No. 3,	Shaft,	Gaseous,	Fan,	18.	4.5	4.0	53	.8	Guibal,	Steam,	2	70,000	†	107,600	
No. 3,	Slope,	Gaseous,	Fan,	10.	4.0	3.16	84	.3	Guibal,	Steam,	2	22,750	19,750	29,175	
Elliott, McClure and Co.															
Sibley Colliery:															
Sibley,	Shaft,	Non-gas.,	Fan,	20.	6.0	5.0	70	1.6	Guibal,	Steam,	8	105,000	99,500	110,500	523
Hillside Coal and Iron Co.															
Consolidated Colliery:															
Consolidated,	Slope,	Non-gas.,	Fan,	14.	4.0	4.0	85	.6	Guibal,	Steam,	4	27,400	25,400	27,500	105
Consolidated,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	13,350	†	16,980	31
Hudson Coal Co.															
Spring Brook Colliery:															
No. 1,	Slope,	Gaseous,	Fan,	12.	3.0	4.0	90	.5	Guibal,	Steam,	1	19,550	13,300	21,300	50
No. 2,	Slope,	Non-gas.,	Fan,	15.	4.5	4.6	120	.2	Guibal,	Steam,	2	40,360	27,500	44,200	
No. 3,	Slope,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	10,200	9,850	13,300	
Langcliffe Colliery:															
Langcliffe,	Shaft,	Non-gas.,	Fan,	17.	5.0	6.0	60	.4	Guibal,	Steam,	2	32,100	28,450	36,225	195
Moosic,	Shaft,	Gaseous,	Fan,	10.	4.0	4.0	90	.1	Guibal,	Steam,	1	21,400	18,325	24,850	
No. 1,	Slope,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	16,240	13,375	17,900	
No. 2,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	14,950	12,000	16,850	
No. 3,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	15,100	12,350	17,000	
Lehigh Valley Coal Co.															
Austin Colliery:															
Austin,	Drift,	Non-gas.,	Fan,	8.	3.0	2.0	120	.8	Guibal,	Electricity,	1	18,500	12,000	19,900	30
Moosic Coal Co.															
Moosic Colliery:															
Moosic,	Drift,	Non-gas.,	Natural,	.....	.....	.....	.....	.....	.....	.....	1	6,000	5,100	6,350	12

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†Robbing pillars.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Raliroad to Mine
Pennsylvania Coal Co.						
Old Forge,	Lackawanna,	W. W. Inglis, General Mgr. Joseph P. Jennings, General Supt.	Scranton,	J. W. Reid,	Moosic,	Erie
Central,	Luzerne,					
Delaware, Lackawanna and Western Railroad Co.						
Pyne,	Lackawanna,	C. E. Tobey,	Scranton,	T. J. Williams,	Scranton,	D. L. and W.
Taylor,	Lackawanna,			David Lloyd,		
Halstead,	Luzerne,			David Lloyd,		
Jermyn and Co.						
Jermyns,	Lackawanna,	E. B. Jermyn,	Scranton,	John P. Corcoran,	Old Forge,	Erie
Elliott, McClure and Co.						
Sibley,	Lackawanna,	R. W. Rees,	Old Forge,	R. W. Rees,	Old Forge,	Erie, D. L. and W. and Lehigh Valley
Hillside Coal and Iron Co.						
Consolidated,	Luzerne,	Joseph P. Jennings,	Scranton,	John W. Reid,	Moosic	Erie
Hudson Coal Co.						
*Spring Brook,	Lackawanna,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Langcliffe,	Luzerne,					
Lehigh Valley Coal Co.						
Austin,	Lackawanna,	Thomas Thomas,	Wilkes-Barre,	W. D. Owens,	Pittston,	Lehigh Valley
Moosic Coal Co.						
Moosic,	Lackawanna,	John F. Cotter,	Wyoming,	John F. Cotter,	Wyoming,	Erie

*Abandoned.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Pennsylvania Coal Co.													
Old Forge,	Lackawanna,	771,865	65,144	....	837,009	300	1,447	3	8	834,850	....	32,182	2
Central,	Luzerne,	356,434	25,183	69	381,686	274	839	3	2	339,225	....	13,771	41
Totals,		1,128,299	90,327	69	1,218,695	......	2,286	6	10	1,174,075	....	45,953	43
Delaware, Lackawanna and Western Railroad Co.													
Pyne,	Lackawanna,	469,715	18,194	1,828	489,737	268	833	3	7	383,750	2,245	....	74
Taylor,	Lackawanna,	381,890	17,244	7,151	406,285	265	783	2	9	421,750	11,249	....	36
Halstead,	Luzerne,	97,562	15,426	2,260	115,248	223	482	2	2	135,975	16,610	26,850	68
Totals,		949,167	50,864	11,239	1,011,270	......	2,098	7	18	941,475	30,104	26,850	178
Jermyn and Co.													
Jermyns,	Lackawanna,	456,308	42,805	8,507	507,620	258	959	......	1	574,375	64,450	....	72
Elliott, McClure and Co.													
Sibley,	Lackawanna,	172,543	29,360	10,984	212,887	250	646	6	7	402,425	36,556	....	51
Hillside Coal and Iron Co.													
Consolidated,	Luzerne,	139,210	16,484	9,499	165,193	228	384	1	1	130,950	....	7,238	34

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Hudson Coal Co.,													
Spring Brook, ...	Lackawanna, ...	16,789	9,406	570	26,765	52	92	......	......	31,650	1,048	....	10
Langcliffe, ...	Luzerne, ...	89,061	9,291	2,135	100,487	144	271	......	4	79,850	3,901	....	60
Totals, ...	....	105,850	18,697	2,705	127,252	......	363	......	4	111,500	4,949	....	70
Lehigh Valley Coal Co.													
Austin, ...	Lackawanna. ...	13,035	312	....	13,347	*220	37	......	2	5,700	75	....	9
Moosic Coal Co.													
Moosic, ...	Lackawanna, ...	459	150	136	745	76	18	......	......	1,250	200	....	2
Grand totals, ...	....	2,964,871	248,999	43,139	3,257,009	......	6,791	20	43	3,341,750	136,334	80,041	459

*Coal prepared at William A. colliery of Lehigh Valley Coal Co., Eighth District.

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Pennsylvania Coal Co., ...	Lackawanna, Luzerne, ...	......	......	46	5,300	5,300	5	......	44	46	5,090	15	19,200	9,400	4	......
Delaware, Lackawanna and Western Railroad Co., ...	Lackawanna, Luzerne, ...	27	920	26	4,595	5,515	1	......	25	41	3,685	8	10,220	4,700	3	......
Jermyn and Co., ...	Lackawanna, ...	......	......	4	2,000	2,000	......	......	......	21	1,818	2	10,000	7,000	1	......
Elliott, McClure and Co., ...	Lackawanna, ...	......	......	3	1,200	1,200	......	......	......	24	1,200	2	5,000	3,000	......	2
Hillside Coal and Iron Co., ..	Luzerne, ...	......	......	12	900	900	2	......	......	14	850	1	600	500	......	......
Hudson Coal Co., ...	Lackawanna, Luzerne, ...	......	......	12	1,485	1,485	1	......	......	36	1,226	3	2,700	1,000	1	1
Lehigh Valley Coal Co., ...	Lackawanna, ...	......	......	....	....	....	1	......	......	......	15	1	500	400	......	......
Moosic Coal Co., ...	Lackawanna, ...	1	60	....	....	60	......	......	......	2	50	1	300	200	......	......
Totals, ...	....	28	980	103	15,480	16,460	10	......	69	184	18,934	33	48,520	26,200	9	3

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laberers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Pennsylvania Coal Co., ...	Lackawanna, Luzerne, ...	4	12	....	637	643	21	41	10	152	160	1,680	1	2	35	35	156	69	5	303	606	2,286
Delaware, Lackawanna and Western Railroad Co., ...	Lackawanna, Luzerne, ...	4	2	16	593	555	130	27	19	72	249	1,667	....	5	20	48	124	3	11	220	431	2,098
Jermyn and Co., ...	Lackawanna, ...	2	2	11	286	286	95	6	6	84	....	778	2	2	18	21	46	31	6	55	181	959
Elliott, McClure and Co., ..	Lackawanna, ...	1	6	....	200	170	51	20	5	70	....	523	1	1	7	10	25	10	5	64	123	646
Hillside Coal and Iron Co.,	Luzerne, ...	2	1	....	93	120	30	2	1	11	18	278	....	1	11	8	24	1	1	60	106	384
Hudson Coal Co., ...	Lackawanna, Luzerne, ...	2	1	1	75	106	37	1	1	18	3	245	....	2	8	26	11	17	3	51	118	363
Lehigh Valley Coal Co., ...	Lackawanna, ...	1	....	....	8	8	5	1	....	7	....	30	....	1	2	....	....	....	....	4	7	37
Moosic Coal Co., ...	Lackawanna, ...	1	....	....	4	4	1	....	....	....	2	12	1	....	....	2	1	....	....	2	6	18
Totals, ...	....	17	24	28	1,896	1,892	370	98	42	414	432	5,213	5	14	101	150	387	131	31	759	1,578	6,791

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Pennsylvania Coal Co.,	Lackawanna, Luzerne,	24	22	25	23	24	24	24	24	24	25	23	25	287
Delaware, Lackawanna and Western Railroad Co.,	Lackawanna, Luzerne,	24	22	15	16	17	20	25	24	23	22	22	22	252
Jermyn and Co.,	Lackawanna,	22	21	22	22	17	22	23	22	22	22	21	22	258
Elliott, McClure and Co.,	Lackawanna,	24	22	9	17	24	24	22	22	22	24	19	21	250
Hillside Coal and Iron Co.,	Luzerne,	20	19	19	18	18	18	19	20	19	20	18	20	228
Hudson Coal Co.,	Lackawanna, Luzerne,	8	9	8	8	9	9	9	10	7	7	7	7	98
Moosic Coal Co.,	Lackawanna,	21	20	8	......	......	......	.....	......	......	10	8	9	76

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Feb.	4	Peter McGraw,	American,	Headman,	27	S.	....	....	Halstead,	Luzerne,	Killed by falling under trip of cars on plane.
	10	Bravi Wlisse,	Italian,	Miner,	40	M.	1	1	Old Forge,	Lackawanna,	Killed by fall of roof at face of chamber.
	11	Harry Hoover,	American,	Laborer,	30	M.	1	....	Sibley,	Lackawanna,	Killed by fall of roof in chamber.
	14	Leo Stinson,	American,	Driver,	17	S.	....	....	Central,	Luzerne,	Crushed to death between loaded and empty cars on passing branch 316 feet from foot of shaft.
May	10	Mike Cavah,	Polish,	Laborer,	40	M.	1	3	Central,	Luzerne,	Fatally injured by piece of rock sliding off gob at face.
June	13	Felix Bossa, Vinnanzi Damnchi,	Italian, Italian,	Miner, Laborer,	27 20	M. S.	1	5	Old Forge,	Lackawanna,	Killed by fall of roof at face of chamber.
	16	James Shea,	Irish,	Miner,	40	M.	1	4	Taylor,	Lackawanna,	Killed by fall of roof at face of chamber.
July	12	Alec Smith,	Russian,	Laborer,	30	M.	1	3	Pyne,	Lackawanna,	Fatally injured by fall of roof at face of chamber.
Aug.	4	Fred Collier,	American,	Motorman,	23	M.	1	2	Central,	Luzerne,	Fatally injured by being squeezed between motor and cars on gangway.
	16	Ben Krotavitch, Peter Gonser,	Lithuanian, Polish,	Miner, Laborer,	30 28	M. M.	1 1	2	Sibley,	Lackawanna,	Killed by fall of roof at face of new counter.
	19	Anthony Lukasik,	Polish,	Miner,	57	M.	1	2	Consolidated,	Luzerne,	Fatally burned by an explosion of powder in crosscut while making a cartridge.
Sept.	27	Jacob Penta,	Polish,	Miner,	42	S.	....	....	Sibley,	Lackawanna,	Fatally injured by fall of soapstone at face of chamber.
Oct.	9	George Buck,	English,	Company man	40	M.	1	1	Halstead,	Luzerne,	Killed by blast at the face of another miner's chamber while he was looking for the mine foreman.
	22	Charles Sweders,	Polish,	Laborer,	40	M.	1	....	Sibley,	Lackawanna,	Killed by fall of a saddle at end of pillar.
	23	Theodore Grain,	Russian,	Laborer,	26	M.	1	....	Pyne,	Lackawanna,	Fatally injured by explosion of powder at face.
	25	Jenkin Williams,	Welsh,	Laborer,	30	M.	1	1	Pyne,	Lackawanna,	Killed by cars on gangway.
Dec.	4	William N. Richards,	Welsh,	Miner,	51	M.	1	....	Taylor,	Lackawanna,	Killed by fall of roof at face of chamber.
	23	John Huda,	Polish,	Miner,	28	M.	1	1	Sibley,	Lackawanna,	Fatally burned by explosion of powder at face of chamber.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	13	Henry Pairclaugh, ...	American, ..	Laborer, ...	23	M.	Taylor, ...	Lackawanna, ...	Leg bruised by fall of roof at end of pillar.
	14	Andrew Cookta, ...	Polish, ...	Laborer, ...	25	S.	Langcliffe, ...	Luzerne, ...	Right knee fractured by falling when running away from fall of roof at face of chamber.
Feb.	7	John Pethrick, ...	Slavonian, ..	Laborer, ...	48	M.	Taylor, ...	Lackawanna, ...	Ribs broken by mule falling on him near face of chamber.
	12	Simon Brastopsky, ...	Polish, ...	Miner, ...	36	M.	Consolidated, ...	Luzerne, ...	Right leg fractured by fall of roof at face of chamber.
March	10	Mike Calina, ...	Lithuanian,	Miner, ...	23	S.	Taylor, ...	Lackawanna, ...	Leg fractured and scalp lacerated by fall of roof at face.
	13	Hugh Hughes, ...	American, ..	Laborer, ...	32	S.	Taylor, ...	Lackawanna, ...	Scalp and hips bruised by fall of roof at face of chamber.
	20	Dominick Coleman, ..	American, ..	Driver, ...	18	S.	Taylor, ...	Lackawanna, ...	Leg bruised by being caught between cars on plane.
April	12	George Skesick, ...	Slavonian, ..	Laborer, ...	34	M.	Taylor, ...	Lackawanna, ...	Finger broken by being caught between sprag and coal at face.
	14	Walter Rychleskie, ..	Polish, ...	Miner, ...	37	M.	Old Forge, ...	Lackawanna, ...	Foot cut off by piece of rock sliding from gob at end of pillar.
	18	William Vandno, ...	Polish, ...	Laborer, ...	33	M.	Old Forge, ...	Lackawanna, ...	Ribs and fingers broken by blast at face.
	19	John Valardi, ...	Italian, ...	Miner, ...	34	M.	Sibley, ...	Lackawanna, ...	Burned and cut on arm and face while forcing powder in hole at face of chamber.
	26	Vito Powell, ...	Italian, ...	Helper, ...	18	S.	Sibley, ...	Lackawanna, ...	Wrist broken between roof and topping on car on gangway.
May	9	David Jones, ...	Welsh, ...	Machine runner, ..	32	M.	Taylor, ...	Lackawanna, ...	Fingers crushed by being caught between rope and drum at face of chamber.
	12	Roy Thomas, ...	American, ..	Driver, ...	20	S.	Pyne, ...	Lackawanna, ...	Finger injured by cars on head of plane.
	14	Peter Genceo, ...	Austrian, ..	Laborer, ...	35	M.	Austin, ...	Lackawanna, ...	Feet lacerated by rock sliding down pitch at face of chamber.
June	3	Joseph Whitehouse, ..	American, ..	Driver, ...	17	S.	Pyne, ...	Lackawanna, ...	Leg bruised by being caught on tumbling rod of car on west side plane.
	5	Joseph Racopski, ...	Russian, ...	Miner, ...	47	M.	Old Forge, ...	Lackawanna, ...	Left arm fractured by fall of roof at face of chamber.

TABLE 5.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June	16	Albert Ott,	German,	Driver,	17	S.	Pyne,	Lackawanna,	Bruised about body and leg by being caught between trace chain and car on gangway.
		Evan Davis,	American,	Motorman,	21	S.	Taylor,	Lackawanna,	Heel cut by being caught between loose rail and foot pan of motor at face of chamber.
	17	Louis Shecolski,	Polish,	Laborer,	23	S.	Langcliffe,	Luzerne,	Foot injured by fall of roof on No. 4 plane.
	18	Bernard Calpin,	American,	Driver,	19	S.	Sibley,	Lackawanna,	Leg fractured by being struck by haulage rope on passing branch.
July	11	Mike Kankl,	Polish,	Miner,	45	M.	Halstead,	Luzerne,	Burned on hands and face by gas at face.
	11	John Morris,	Polish,	Miner,	30	M.	Sibley,	Lackawanna,	Severely bruised by fall of roof on gangway.
	12	Ignatz Wojcicki,	Austrian,	Laborer,	28	S.	Pyne,	Lackawanna,	Left arm and leg fractured by fall of roof at face.
	23	Anthony Shincavage,	Polish,	Laborer,	20	S.	Old Forge,	Lackawanna,	Leg fractured by fall of roof at face.
Aug.	4	William Hopes,	English,	Miner,	30	M.	Old Forge,	Lackawanna,	Back injured by fall of roof at face of pillar.
	9	Andrew Moor,	German,	Laborer,	63	M.	Pyne,	Lackawanna,	Ankle bruised by being struck by empty car at foot of shaft.
	11	Thomas E. Davis,	American,	Rope rider,	41	M.	Taylor,	Lackawanna,	Both feet crushed by being caught between bumpers of cars near barn.
Sept.	11	Robert Hines,	German,	Company man,	58	M.	Jermyns,	Lackawanna,	Arm fractured and bruised about body by fall of roof at face.
	17	Edward Pedalene,	Polish,	Miner,	36	M.	Halstead,	Lackawanna,	Cut on face and jaw fractured by flying pieces of coal from blast.
	18	John Dusko,	Polish,	Miner,	34	M.	Austin,	Lackawanna,	Back and leg bruised by piece of rock falling from rib near face.
	27	John Konitsky,	Polish,	Miner,	26	M.	Sibley,	Lackawanna,	Cut and bruised about head by fall of roof at face.
Oct.	3	John McKenzie,	American,	Runner,	17	S.	Langcliffe,	Luzerne,	Contusion of neck caused by being squeezed between car and rib in No. 1 tunnel.
	8	Anthony Polishey,	Polish,	Miner,	42	M.	Sibley,	Lackawanna,	Hip and ribs injured by fall of roof at face.
	13	Harry Kowisky,	Russian,	Plateman,	46	M.	Old Forge,	Lackawanna,	Leg fractured by piece of coal falling on it at top of breaker. Outside.

Oct.	22	Mike Subienoskie, ...	Polish, ...	Miner, ...	29	M.	Sibley, ...	Lackawanna, ...	Back injured by fall of roof at end of pillar.
	23	Peter Weisenflue, ...	Swiss, ...	Miner, ...	45	M.	Pyne, ...	Lackawanna, ...	Severely injured by explosion of powder at face of chamber.
	31	Brazilian Bovy, ...	Italian, ...	Slatepicker, ...	17	S.	Old Forge, ...	Lackawanna, ...	Leg fractured by being thrown by another boy. In breaker. Outside.
Nov.	4	James Howard, ...	Polish, ...	Laborer, ...	33	M.	Central, ...	Luzerne, ...	Leg fractured by fall of roof on plane.
	12	Walenty Shamasinski,	Polish, ...	Miner, ...	48	M.	Central, ...	Luzerne, ...	Leg fractured by being struck by flying pieces of coal from a blast forty feet from face.
	20	Joseph Drous, ...	Polish, ...	Miner, ...	30	M.	Langcliffe, ...	Luzerne, ...	Ribs fractured and contusion of back by fall of top coal at face.
Dec.	6	John B. Davis, ...	Welsh, ...	Miner, ...	42	S.	Pyne, ...	Lackawanna, ...	Leg broken by prop falling on it on gangway.
	12	Mike Chesek, ...	Polish, ...	Doorboy, ...	16	S.	Old Forge, ...	Lackawanna, ...	Hand crushed by being caught between top rail of car and roof on gangway.

CONDITION OF COLLIERIES

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

Central Colliery.—Ventilation, drainage and general condition good. Mining pillars.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pyne Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

Taylor Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

Halstead Colliery.—Ventilation, drainage and condition as to safety fair. Mining pillars.

JERMYN AND COMPANY

Jermyns Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars extensively.

ELLIOTT, McCLURE AND COMPANY

Sibley Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

HILLSIDE COAL AND IRON COMPANY

Consolidated Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

HUDSON COAL COMPANY

Spring Brook Colliery.—Ventilation, drainage and general condition as to safety good. Mining pillars.

Langcliffe Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

LEHIGH VALLEY COAL COMPANY

Austin Colliery.—Ventilation, drainage and general condition as to safety fair. Mining pillars almost exclusively.

MOOSIC COAL COMPANY

Moosic Colliery.—Ventilation, drainage and condition as to safety good.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—A new steam line erected from the breaker to No. 1 shaft, and the boiler plant at the latter place abandoned.

A saw mill, operated by electricity, has been built on the outside near No. 1 shaft to cut props needed for the colliery.

Considerable work has been done grading the main haulage roads in No. 2 shaft to eliminate the present grades.

Central Colliery.—For better fire protection a new fire pump was installed outside.

Rebuilt the head frame over Laws shaft.

Considerable work has been done filling in the old workings in the Red Ash veins with culm and broken rock from the breaker.

A saw mill, operated by electricity, has been built to cut the props for the colliery.

The engine and pump house at No. 13 shaft was rebuilt, making it fireproof.

A rock plane, 7 by 12 feet, on a 20 degree grade, was driven from Nigger vein to Clark vein, in Laws shaft, a distance of 470 feet.

An air shaft, 10 by 14 feet, was sunk from the surface to the Nigger vein for a second opening and ventilation.

A traveling way was driven from surface, striking the crop of the Clark vein near Laws shaft. This provides a second opening and a good traveling way from this seam.

JERMYN AND COMPANY

Jermyns Colliery.—Old revolving screens taken out and new shaking screens put in breaker.

Three pairs of compounded rollers were installed in the breaker.

HILLSIDE COAL AND IRON COMPANY

Consolidated Colliery.—Considerable work has been done rebuilding the washery pockets.

At Consolidated drift an air shaft has been sunk from the surface to the Red Ash vein to provide better ventilation and at the same time makes another second opening to the surface.

A slope has been driven from the surface into the top split of the Stark vein at Consolidated drift.

At the Red Ash slope an additional pump to pump to the surface has been installed.

The old Brown slope near Consolidated breaker has been reopened for the purpose of taking out the pillars.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the High School, Old Forge, June 6 and 7.

The Board of Examiners was composed of Augustus McDade, Inspector; R. W. Rees, Superintendent, Rendham; Morgan E. Griffiths, Miner, Taylor; John F. Hayes, Miner, Old Forge.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Nelson N. Nichols, Thomas Farmer, Stanley Gleason, David Beacham, Scranton; Patrick L. Heneghan, Thomas Loftus, William H. Cordy, Old Forge; John T. Harris, Thomas J. Jones, Alfred Jones, Thomas Jones, Jr., Charles D. Perry, Taylor; Shelby D. Dimmick, Forty Fort; William A. Gallagher, Rendham; John R. Thomas, Wyoming; William M. Glynn, Bernice.

ASSISTANT MINE FOREMEN

Dennis Farrell, Frank Murphy, William A. Ratchford, Duryea; Chester A. Reese, John W. Thomas, Taylor; William A. Riddle, Michael McNulty, William Crues, George Nelson, Edward Morgans, Old Forge; Thomas Ruane, Pittston.

SIXTH DISTRICT

LUZERNE COUNTY

Pittston, Pa., February 20, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my report as Inspector of Mines for the Sixth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

H. McDONALD, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	14
Number of mines,	41
Number of mines in operation,	41
Number of tons of coal shipped to market,	5,020,380
Number of tons used at mines for steam and heat,	462,053
Number of tons sold to local trade and used by employes,	48,253
Number of tons produced,	5,530,686
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	9,267
Number of persons employed outside,	2,841
Number of fatal accidents inside of mines,	35
Number of fatal accidents outside,	1
Number of non-fatal accidents inside of mines,	72
Number of non-fatal accidents outside,	9
Number of tons of coal produced per fatal accident inside,	158,019
Number of tons produced per fatal accident outside,	5,530,686
Number of tons produced per fatal accident inside and outside,	153,630
Number of persons employed per fatal accident inside,	264
Number of persons employed per fatal accident outside,	2,841
Number of persons employed per fatal accident inside and outside,	336
Number of persons employed per non-fatal accident inside,	128
Number of persons employed per non-fatal accident outside,	315
Number of persons employed per non-fatal accident inside and outside,	149
Number of wives made widows,	27
Number of children made orphans,	64
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	25
Number of compressed air locomotives used inside,	12
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	61
Number of electric motors used outside,	....
Number of fans in use,	42
Number of furnaces in use,	....
Number of gaseous mines in operation,	21
Number of non-gaseous mines in operation,	20
Number of new mines opened,	2
Number of old mines abandoned,	2

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Pennsylvania Coal Company,	3,156,933
Hillside Coal and Iron Company,	668,072
Hudson Coal Company,	660,372
Lehigh Valley Coal Company,	573,863
Delaware and Hudson Company,	259,254
Traders Coal Company,	104,508
Wilkes-Barre Colliery Company,	61,320
McCauley Coal Company,	46,364
Total,	5,530,686

Production by Counties

Luzerne,	5,530,686

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Pennsylvania Coal Co.,	19	1	20	27	7	34	166,154	116,923	5,231	1,578	6,809	275	1,578	193	225
Hudson Coal Co.,	5	......	5	17	......	17	132,074	38,845	1,263	341	1,604	252	....	74	....
Hillside Coal and Iron Co.,	4	......	4	9	1	10	167,018	74,230	1,106	411	1,517	276	....	123	411
Lehigh Valley Coal Co.,	1	......	1	9	......	9	573,863	63,762	777	234	1,011	777	....	86	....
Delaware and Hudson Co.,	2	......	2	3	1	4	129,627	86,418	453	153	606	226	....	151	153
Traders Coal Co.,	2	......	2	1	......	1	52,254	104,508	282	69	351	141	....	282	....
Wilkes-Barre Colliery Co.,	1	......	1	6	......	6	61,320	10,220	124	39	163	124	....	21	....
McCauley Coal Co.,	1	......	1	......	......	......	46,364	....	31	16	47	31	....	....	....
Totals and averages for district,	35	1	36	72	9	81	158,019	76,815	9,267	2,841	12,108	264	2,841	128	315

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	1	1	....	....	....	....	1	....	1	1	....	5	14.29
Falls of roof, ...	....	....	3	2	....	3	....	....	1	4	2	3	18	51.43
Mine cars, ...	....	1	....	....	....	....	....	1	....	....	....	....	2	5.71
Explosions of gas, ...	....	....	1	....	....	....	....	....	....	....	....	....	1	2.86
Explosions of powder and dynamite, ...	....	1	....	....	....	....	...	....	....	....	....	....	1	2.86
Blasts, premature and otherwise, ...	1	....	....	....	....	2	3	....	....	....	2	....	8	22.85
Totals, ...	1	3	5	2	....	5	3	2	1	5	5	3	35	100.00
Causes of Accidents Outside														
Cars, ...	....	....	....	....	....	1	....	....	....	....	....	....	1	100.00
Totals, ...	....	....	....	....	....	1	....	....	....	....	....	....	1	100.00
Grand totals inside and outside, ...	1	3	5	2	....	6	3	2	1	5	5	3	36	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	....	....	1	....	....	....	1	....	....	....	....	2	2.78
Falls of roof, ...	....	2	2	4	1	2	2	1	1	4	1	1	21	29.16
Mine cars, ...	6	4	....	....	1	1	2	2	2	2	1	....	21	29.17
Explosions of gas, ...	....	....	2	2	....	....	....	....	....	....	1	1	6	8.33
Explosions of powder and dynamite, ...	...	....	... .	...	....	....	....	....	....	1	....	....	1	1.39
Blasts, premature and otherwise, ...	2	....	....	....	1	1	2	....	....	....	4	1	11	15.28
Falling into shafts, ...	1	....	....	....	....	....	....	....	....	....	....	....	1	1.39
Mules, ...	....	....	....	....	1	....	....	....	1	....	....	..	2	2.78
Bursting pipe, ...	. . .	....	....	2	....	....	....	....	....	....	....	....	2	2.78
By falling, ...	....	....	....	....	1	....	2	....	....	....	1	....	4	5.55
Struck by timber, ...	....	....	....	....	....	1	....	....	....	....	....	....	1	1 39
Totals, ...	9	6	4	9	5	5	8	4	4	7	8	3	72	100.00
Causes of Accidents Outside														
Cars, ...	....	....	....	....	1	1	....	....	....	....	1	....	3	33.33
Machinery, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	11.11
Struck by timber, ...	1	....	....	....	....	....	....	....	....	....	....	....	1	11.11
By falling, ...	....	1	....	....	1	....	....	....	1	....	....	....	3	33.34
Struck by casting, ...	....	....	....	....	....	....	....	....	1	....	....	....	1	11.11
Totals, ...	1	1	....	....	2	1	....	....	2	1	1	....	9	100.00
Grand totals inside and outside ,..............	10	7	4	9	7	6	8	4	6	8	9	3	81	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Mine foremen,	....	....	....	1	....	....	....	....	....	....	....	....	1
Miners,	1	2	4	....	....	....	3	1	....	4	2	1	18
Miners' laborers,	....	....	....	....	....	4	....	1	1	1	1	2	10
Drivers and runners,	....	1	....	....	....	1	....	....	....	....	1	....	3
Masons,	....	....	1	....	....	....	....	....	....	....	....	....	1
Blacksmiths,	....	....	....	1	....	....	....	....	....	....	....	....	1
Rock contractors,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	1	3	5	2	....	5	3	2	1	5	5	3	35
Outside													
Loaders,	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals,	....	....	....	....	....	1	....	....	....	....	....	....	1
Grand totals inside and outside,	1	3	5	2	....	6	3	2	1	5	5	3	36

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Assistant mine foremen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Fire bosses and assistants,	1	....	....	....	....	....	....	....	....	....	....	....	1
Miners,	2	4	3	5	2	2	2	1	1	3	3	1	29
Miners' laborers,	2	....	1	3	1	3	4	1	....	....	2	2	19
Drivers and runners,	4	1	....	....	1	....	1	2	2	2	1	....	14
Footmen,	....	1	....	....	....	....	1	....	....	....	....	....	2
Machinists,	....	....	....	1	....	....	....	....	....	....	....	....	1
Brakemen,	....	....	....	....	1	....	....	....	1	....	....	....	2
Bratticemen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Timbermen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Drillers,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	9	6	4	9	5	5	8	4	4	7	8	3	72
Outside													
Blacksmiths and carpenters,	....	....	....	....	....	....	....	....	1	....	....	....	1
Slatepickers (boys),	....	1	....	....	1	....	....	....	....	1	....	....	3
Headmen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	....	1	....	....	....	....	....	1	....	2
Loaders,	....	....	....	....	....	1	....	....	....	....	....	....	1
Slate bosses,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	1	1	....	....	2	1	....	....	2	1	1	....	9
Grand totals inside and outside,	10	7	4	9	7	6	8	4	6	8	9	3	81

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	1	1	....	....	....	....	....	1	1	1	5
English,	....	....	....	....	....	....	....	....	....	....	....	1	1
Scotch,	....	....	....	....	....	....	....	....	....	....	1	....	1
Irish,	....	1	....	....	....	....	....	1	....	....	....	....	2
Polish,	....	....	1	1	....	2	2	....	1	1	1	....	9
Italian,	....	1	3	....	....	....	1	1	....	1	2	....	9
Slavonian,	....	....	....	....	....	1	....	....	....	....	....	....	1
Lithuanian,	....	....	....	....	....	3	....	....	....	1	....	1	5
Russian,	1	1	....	....	....	....	....	....	....	1	....	....	3
Totals,	1	3	5	2	....	6	3	2	1	5	5	3	36

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	3	1	....	1	1	....	1	....	3	2	5	....	17
English,	....	....	....	1	....	....	....	....	1	....	....	....	2
Welsh,	1	....	....	....	....	....	....	....	....	1	1	....	3
Irish,	....	....	....	....	2	....	1	....	....	....	1	....	4
German,	....	....	....	....	....	....	....	1	....	....	1	....	2
Polish,	2	1	....	2	1	3	4	2	2	3	1	1	22
Italian,	2	2	2	3	1	1	1	....	....	....	....	1	13
Slavonian,	1	1	1	....	....	2	....	1	....	1	....	....	7
Lithuanian,	1	1	....	....	2	....	....	....	....	1	....	....	5
Austrian,	....	....	....	....	....	....	1	....	....	....	....	1	2
Russian,	....	1	1	2	....	....	....	....	....	....	....	....	4
Totals,	10	7	4	9	7	6	8	4	6	8	9	3	81

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Pennsylvania Coal Co.																
Barnum Colliery:																
Barnum No. 2, ...	Shaft, ...	Gaseous, ..	2 Fans, ..	17 20	5 6.5	4.6 5.4	58 60	.6 .6	Guibal, ..	Steam, ...	..	10	138,400	112,700	156,200	315
Number 9 Colliery:																
Number 1, ...	Shaft, ...	Gaseous, ..	Fan, ...	20	6.5	5.4	60	.8	Guibal, .	Steam, ...	..	5	93,820	79,030	100,000	207
Number 8, ...	Shaft, ...			20	6.5	5.4	50	.8		Steam, ...	..	7	76,900	66,000	100,000	253
Leadville, ...	Shaft, ...			20	6.5	5.4	64	1.5		Steam, ...	..	6	129,000	105,500	147,000	202
Number 10, ...	Shaft, ...			20	6.5	5.4	62	2.		Steam, ...	..	6	130,200	105,600	132,000	236
Curtis,*	Slope, ...			10	4.5	2.8	98	.5		Electricity, .	..	2	26,300	20,000	33,000	29
Ewen Colliery:																
Number 4, ...	Shaft, ...	Gaseous,	2 Fans, ..	20	6.5	5.4	60	1.5	Guibal, ..	Steam, ...	..	7	94,435	87,600	117,870	221
Number 7, ...			Fan, ...	20	6.5	5.4	60	1.			..	6	86,800	79,000	91,950	242
Hoyt, ...			2 Fans, ..	20	6.5	5.4	80	1.5			..	8	119,800	104,200	141,700	390
Number 6 Colliery:																
Number 5, ...	Shaft, ...	Gaseous, ..	Fan, ...	20	6.5	5.4	65	1.1	Guibal, ..	Steam, ...	..	6	107,000	105,700	109,210	325
Number 6, ...	Shaft, ...	Gaseous, ..	Fan, ...	20	6.5	5.4	68	1.2			..	8	107,035	94,150	118,040	337
Number 11, ...	Shaft, ...	Gaseous, ..	Fan, ...	20	6.5	5.4	64	1.5			..	4	65,100	58,200	69,300	168
Wright, ...	Slope, ...	Non-gas., .	Fan, ...	20	6.5	5.4	56	.7			..	2	42,060	40,550	46,700	83

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*New mine.

Number 14 Colliery:																
Number 14, ...	Shaft,...	Gaseous, ..	3 Fans,..	20	6.5	5.4	71	1.4	Guibal, ..	Steam,....	..	12	192,100	152,610	207,145	434
Number 14, ...	Tunnel, .		Fan, ...	20	6.5	5.4	65	.7			..	10	135,000	108,120	154,800	280
Courtright, ...	Slope,...	Gaseous, ..	Fan, ...	20	6.5	5.4	60	.9			..	4	120,360	116,650	124,650	249
Number 14 Diamond, ...	Slope,.....	Gaseous, ..	Fan, ...	17	5.	4.	70	.8	Guibal, ...	Steam,......	..	2	27,275	18,200	27,975	76
New Diamond, ...	Slope,.....	Non-gas., .	Fan, ...	20	6.5	5.4	39	.4	Guibal, ...	Steam,......	..	2	49,690	40,810	50,170	65
Chapman, ...	Slope,.....	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	1	8,540	7,542	9,430	10
Hillside Coal and Iron Co.																
Butler Colliery:																
Marcy, ...	Slope,...	Non-gas., .	Fan, ...	20	6.5	5.4	80	1.4	Guibal, ...	Steam,......	..	3	67,760	65,460	71,350	147
Checker,†	Slope,...		2 Fans,..	15	4.	4.	100	1.2	Guibal, .	Steam,......	..	..	....	....	....	....
Thomas, ...	Shaft,...			16	4.	4.	100	1.2		Electricity,.	..	10	190,550	162,575	221,800	319
Fernwood, ...	Slope,...		Fan, ...	20	6.5	5.4	54	.8		Electricity,.	..	2	55,700	51,600	63,600	172
Deep Well,*	Tunnel, .		Natural,	......	......	......	......	......	....	....	..	1	15,260	12,500	16,150	10
Clarence,†	Slope,...		....	......	......	......	......	......	....	....	..	..	....	....	....	....
Hudson Coal Co.																
Pine Ridge Colliery:																
Pine Ridge, ...	Shaft,.....	Gaseous, ..	Fan, ...	28	8	7.75	58	2.2	Guibal, ...	Steam,......	..	10	250,000	152,000	257,000	468
Laurel Run, ...	Slope,.....	Gaseous, ..	Fan, ...	28	8	7.75	56	2.1	Guibal, ...	Steam,......	..	8	146,250	102,780	165,510	273
Laflin Colliery:																
Laflin, ...	Shaft,.....	Non-gas., .	Fan, ...	20	5	5	75	1.7	Guibal, ...	Steam,......	..	7	129,845	114,627	150,354	388
Laflin, ...	Tunnel, ...	Non-gas., .	Fan, ...	14	4	3.6	85	.2	Guibal, ...	Steam,......	..	2	23,168	20,196	25,875	18
Lehigh Valley Coal Co.																
Mineral Spring Colliery:																
Mineral Spring, ...	Shaft,.....	Gaseous, ..	Fan, ...	20	6.6	5.6	60	1.2	Guibal, ...	Steam,......	..	6	104,600	90,000	130,000	273
Mineral Spring, ...	Slope,.....	Gaseous, ..	Fan, ...	12	4	3.6	100	.7	Guibal, ...	Steam,......	..	2	25,320	25,320	28,400	50
Coal Brook, ...	Tunnel, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	2	18,000	18,000	20,000	40
Heidelburg No. 1 Colliery:																
Heidelburg Marcy No. 2,	Slope,...	Non-gas., .	Fan, ...	10	4	4	144	.8	Guibal, ...	Steam,....	..	2	43,504	40,714	52,454	89
Heidelburg No. 1, ...	Slope,...			16	4	2.6	80	.6			..	2	54,366	50,466	55,772	154
Heidelburg, ...	Tunnel, .			12.8	3.8	3.4	80	.6			..	2	35,590	35,560	38,196	51
Number 2, ...	Shaft,...			20	5.8	5	60	.4			..	2	39,900	22,500	41,200	105
Delaware and Hudson Co.																
Delaware Colliery:																
Delaware, ...	Shaft,.....	Gaseous, ..	3 Fans, ..	20 22.5 20	7 6.6 7	5.6 5.6 5.6	80 60 80	1.3 1.7 1.3	Jeffrey, ... Guibal, ... Jeffrey, ...	Steam,.... Steam,.... Steam,....	..	10	222,130	167,460	257,960	401
Traders Coal Co.																
Ridgewood Colliery:																
Ridgewood, ...	Slope,.....	Non-gas., .	Fan, ...	16	4	5	75	.8	Guibal, ...	Steam,......	..	3	43,420	37,235	49,230	114
Ridgewood, ...	Tunnel, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	2	17,915	14,975	20,700	50

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*New mine.
†Abandoned.

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Wilkes-Barre Colliery Co.																
Madeira Colliery:																
Number 1, ...	Slope, ...	Non-gas., .	Fan, ...	12	5	2.5	65	.6	Jeffrey.	Electricity, .	..	2	56,000	56,000	57,000	100
McCauley Coal Co.																
Pickaway Colliery:																
Pickaway, ...	Tunnel, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	1	5,690	4,600	7,610	31

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Pennsylvania Coal Co.						
Barnum,	Luzerne,	W. W. Inglis, General Manager. Wm. P. Jennings, Division Supt.	Scranton,	A. E. Yetter,	Pittston,	Erie
Number 9,				A. E. Yetter,		
Ewen,				David Girvan,		
Number 6,				David Girvan,		
Number 14,				David Girvan,		
Hillside Coal and Iron Co.						
Butler,	Luzerne,	W. W. Inglis, General Manager. Wm. P. Jennings, Division Supt.	Scranton,	A. E. Yetter,	Pittston,	Erie
Hudson Coal Co.						
Pine Ridge,	Luzerne,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Laflin,						
Lehigh Valley Coal Co.						
Mineral Spring,	Luzerne,	Thomas Thomas,	Wilkes-Barre,	J. H. Haertter,	Wilkes-Barre,	Lehigh Valley
Heidelburg No. 1,				W. D. Owens,	Pittston,	
Delaware and Hudson Co.						
Delaware,	Luzerne,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Traders Coal Co.						
Ridgewood,	Luzerne,	E. B. Jermyn,	Scranton,	T. J. Corcoran,	Old Forge,	Erie and C. R. R. of N. J.
Wilkes-Barre Colliery Co.						
Madeira,	Luzerne,	W. G. Thomas,	Wilkes-Barre,			D. and H.
McCauley Coal Co.						
Pickaway,	Luzerne,	W. H. McCauley,	Pittston,	George T. Rowan,	Pittston,	Lehigh Valley

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Pennsylvania Coal Co.													
Barnum,	Luzerne,	221,907	23,100	2,568	247,575	218	524	......	5	224,700	....	6,552	44
Number 9,		748,834	74,795	6,726	830,355	290	1,678	4	5	526,375	....	29,102	136
Ewen,		650,905	55,705	....	706,610	268	1,483	6	8	628,700	250	22,936	144
Number 6,		577,852	38,597	11,507	627,956	295	1,566	......	9	732,125	....	55,529	136
Number 14,		689,260	52,604	2,573	744,437	295	1,558	10	7	843,200	8,000	39,617	200
Totals,	....	2,888,758	244,801	23,374	3,156,933	......	6,809	20	34	2,955,100	8,250	153,736	660
Hillside Coal and Iron Co.													
Butler,	Luzerne,	612,702	48,381	6,989	668,072	299	1,517	4	10	696,000	27,300	54,943	92
Hudson Coal Co.													
Pine Ridge,	Luzerne,	383,147	76,725	3,438	463,310	256	1,026	1	10	494,975	19,447	13	70
Laflin,		174,204	21,926	932	197,062	203	578	4	7	291,325	64,124	25	75
Totals,	....	557,351	98,651	4,370	660,372	......	1,604	5	17	786,300	83,571	38	145
Lehigh Valley Coal Co.													
Mineral Spring,	Luzerne,	274,250	24,823	3,792	302,865	246	468	......	2	119,500	142,245	....	75
Heidelburg No. 1,		238,283	30,787	1,928	270,998	250	543	1	7	234,625	29,475	....	92
Totals,	....	512,533	55,610	5,720	573,863	......	1,011	1	9	354,125	171,720	....	167
Delaware and Hudson Co.													
Delaware,	Luzerne,	252,822	2,102	4,330	259,254	261	606	2	4	258,625	17,466	400	69

Traders Coal Co. Ridgewood,	Luzerne,	93,214	10,800	494	104,508	255	351	2	1	146,675	....	....	34
Wilkes-Barre Colliery Co. Madeira,	Luzerne,	56,970	1,378	2,972	61,320	287	163	1	6	54,000	8,725	....	14
McCauley Coal Co. Pickaway,	Luzerne,	46,030	330	4	46,364	96	47	1	......	1,000	200	....	6
Grand totals,	....	5,020,380	462,053	48,253	5,530,686	......	12,108	36	81	5,251,825	317,232	209,117	1,187

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Pennsylvania Coal Co.,	Luzerne,	......	......	111	16,056	16,056	14	12	25	192	14,719	22	33,403	17,980	6	17
Hillside Coal and Iron Co.,		......	......	24	3,610	3,610	7	......	23	33	3,525	5	3,000	1,700	5	......
Hudson Coal Co.,		......	......	24	5,140	5,140	1	......	9	115	5,298	6	8,200	6,300	2	5
Lehigh Valley Coal Co.,		......	......	17	2,950	2,950	2	......	......	40	4,310	8	6,197	4,977	......	......
Delaware and Hudson Co.,		......	......	6	1,800	1,800	1	......	4	55	2,335	3	5,200	1,900	1	2
Traders Coal Co.,		......	......	2	800	800	......	......	......	6	620	1	250	200	......	......
Wilkes-Barre Colliery Co.,		......	......	1	100	100	......	......	......	......	......	2	800	300	1	......
McCauley Coal Co.,		......	......	1	80	80	......	......	......	2	80	......	......	......	......	......
Totals,	....	......	......	186	30,536	30,536	25	12	61	443	30,887	47	57,050	33,357	15	24

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Pennsylvania Coal Co.,	Luzerne, ...	15	45	18	1,724	1,753	637	96	30	493	420	5,231	2	5	137	134	287	154	8	851	1,578	6,809
Hillside Coal and Iron Co., ...		3	9	1	365	428	28	10	8	229	25	1,106	1	1	27	35	90	20	1	236	411	1,517
Hudson Coal Co., ...		3	3	11	481	448	133	10	14	133	27	1,263	....	3	18	65	16	42	4	193	341	1,604
Lehigh Valley Coal Co.		5	20	....	357	136	119	11	10	....	119	777	....	3	28	39	....	19	6	139	234	1,011
Delaware and Hudson Co., ...		1	1	4	141	183	63	7	4	41	8	453	....	2	8	29	25	1	2	86	153	606
Traders Coal Co., ...		1	....	3	100	95	34	6	2	20	21	282	1	1	6	8	12	3	1	37	69	351
Wilkes-Barre Colliery Co., ...		1	1	1	16	22	12	....	4	28	39	124	1	1	4	5	7	....	1	20	39	163
McCauley Coal Co. ...		1	....	....	13	13	3	....	....	1	....	31	....	1	1	2	4	4	....	4	16	47
Totals, ...		30	79	38	3,197	3,078	1,029	140	72	945	659	9,267	5	17	229	317	441	243	23	1,566	2,841	12,108

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Pennsylvania Coal Co.,	Luzerne,	24	22	22	23	23	23	23	23	22	23	22	23	273
Hillside Coal and Iron Co.,		26	24	25	25	25	25	26	25	25	25	23	25	299
Hudson Coal Co.,		23	19	16	18	19	18	20	20	20	20	18	18	229
Lehigh Valley Coal Co.,		24	22	14	24	23	24	20	18	19	20	20	20	248
Delaware and Hudson Co.,		23	21	22	22	23	23	24	22	21	24	21	15	261
Traders Coal Co.,		21	22	20	21	21	19	21	21	23	22	21	23	255
Wilkes-Barre Colliery Co.,		26	24	26	17	25	25	24	23	26	26	23	22	287
McCauley Coal Co.,		23	21	14	14	4	......	......	......	......	......	......	20	96

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	15	Harry Mirouski, ...	Russian, ...	Miner, ...	36	M.	1	6	Pine Ridge, ...	Luzerne, ...	Killed by premature blast he was firing.
Feb.	10	Anthony Carroll, ...	Irish, ...	Miner, ...	54	W.	....	4	Ewen, ...		Killed by fall of top coal while removing pillars.
	15	Peter Roots, ...	Italian, ...	Miner, ...	40	M.	1	....	Butler, ...		Fatally burned by powder at box while making cartridge.
	27	Michael Stegnach, ...	Russian, ...	Driver, ...	20	S.	....	....	Delaware, ...		Fatally injured by being squeezed between cars at head of inside slope.
March	5	Gailana Cralia, ...	Italian, ...	Miner, ...	25	M.	1	1	Pickaway, ...		Killed by fall of top coal while removing pillars.
	6	Louis Beroach, ...	Italian, ...	Miner, ...	41	M.	1	5	Ridgewood, ...		Killed by fall of rock at face of breast.
	12	James W. Clark, ...	American, ..	Miner, ...	31	M.	1	4	Butler, ...		Killed by fall of roof rock while removing pillars.
	17	Michael Burnett, ...	Polish, ...	Miner, ...	38	M.	1	2	Number 14, ...		Killed by fall of roof rock and rider coal at face.
	27	Toney Lance, ...	Italian, ...	Mason, ...	53	M.	1	5	Number 14, ...		Fatally burned by gas when he went into abandoned breast with light.
April	2	E. J. Shopland, ...	American, ..	Mine foreman, .	27	M.	1	....	Number 14, ...		Killed by fall of roof rock in miner's breast while examining roof.
	31	Felix Propenski, ...	Polish, ...	Blacksmith, ..	27	S.	....	....	Laflin, ...		Killed by fall of roof rock he was helping take down.
June	12	Joseph Mikin, ...	Lithuanian,	Runner, ...	24	M.	1	1	Number 14, ...		Fatally injured by fall of roof on passing branch at foot of inside slope.
	16	Anthony Youskovich,	Lithuanian,	Laborer, ...	26	M.	1	....	Ewen, ...		Fatally injured by blast in counter gangway, Babylon vein.
		George Kestan, ...	Lithuanian,	Laborer, ...	45	M.	1	....			
		Velly Kuposik, ...	Polish, ...	Loader, ...	28	S.	....	....	Number 14, ...		Killed by car at breaker when an empty car struck the car he was barring. Outside.
	19	Joseph Liskofka, ...	Polish, ...	Laborer, ...	28	M.	1	1	Number 14, ...		Killed by fall of rock.
	23	Michael Heddick, ...	Slavonian, .	Laborer, ...	24	S.	....	....	Butler, ...		Killed at face of breast by fall of rock.
July	3	Peter Kapla, ...	Polish, ...	Miner, ...	33	M.	1	2	Laflin, ...		Killed by explosion of powder while charging hole at face of breast.
	8	Michael Depska, ...	Polish, ...	Miner, ...	38	M.	1	1	Ewen, ...		Killed by blast before he could get to a place of safety.
	23	Charles Barrett, ...	Italian, ...	Miner, ...	32	M.	1	3	Number 9, ...		Fatally injured by premature blast he was firing at face of breast.
Aug.	11	Thomas McGovern, ...	Irish, ...	Miner, ...	57	M.	1	....	Madeira, ...		Killed by fall of rider coal at face of breast.

TABLE 4.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Aug.	20	Nunzin Rossau, ...	Italian, ...	Laborer, ...	43	M.	1	....	Number 14, ...	Luzerne, ...	Fatally injured between cars on gangway road.
Sept.	17	Paul Biter, ...	Polish, ...	Laborer, ...	45	M.	1	....	Ewen, ...		Fatally injured by fall of rock at face of breast.
Oct.	6	Anthony Moleski, ...	Polish, ...	Miner, ...	28	M.	1	3	Number 14, ...		Killed by fall of fire clay roof at face of breast.
		Thomas Pointon, ...	American, ..	Miner, ...	60	M.	1	2	Number 9, ...		Fatally injured by fall of top coal.
	9	Stanley Gray, ...	Russian, ...	Miner, ...	40	W.	....	3	Heidelburg No. 1.		Fatally injured by fall of roof.
	18	Frank Belucie, ...	Italian, ...	Laborer, ...	45	M.	1	5	Ridgewood, ...		Killed by fall of rock at face of breast.
	27	Frank Gudaitis, ...	Lithuanian,	Miner, ...	48	M.	1	5	Number 14, ...		Killed by fall of roof rock while standing prop.
Nov.	3	Anthony Nowak, ...	Polish, ...	Miner, ...	45	M.	1	5	Delaware, ...		Killed by fall of rider coal at face of breast.
	4	Samuel Haddon, ...	Scotch, ...	Rock contractor.	45	M.	1	....	Number 9, ..		Instantly killed by blast.
		Thomas Williams, ...	American, ..	Runner, ...	26	M.	1	2			Fatally injured by blast.
	12	Dominick Benardine,.	Italian, ...	Miner, ...	25	S.	....	....	Laflin, ...		Killed by fall of roof rock at face of breast.
	18	Hermine Baldmore, .	Italian, ...	Laborer, ...	24	S.	....	....	Number 14, ...		Killed by fall of roof rock on gangway at foot of breast.
Dec.	3	Joseph Kearney, ...	American, ..	Laborer, ...	29	M.	1	2	Butler, ...		Killed by fall of roof rock at face of gangway.
	10	Jesse Atwell, ...	English, ...	Miner, ...	40	M.	1	2	Laflin, ...		Fatally injured by rock falling from pillar.
	29	Peter Berstides, ...	Lithuanian,	Laborer, ...	26	S.	....	....	Ewen, ...		Killed by fall of roof rock at face of gangway.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 5	William Susike, ...	Lithuanian,	Runner, ...	21	S.	Number 9, ...	Luzerne, ...	Leg broken by cars while riding between them.
5	Raphael Kantor, ...	Polish, ...	Miner, ...	42	M.	Pine Ridge, ...		Leg broken by rock thrown by blast he was firing in breast.
8	Charles Delines, ...	Italian, ...	Headman, ...	25	S.	Ewen, ...		Leg broken by prop timber he was unloading from railroad car. Outside.
9	Andrew Shoestuck, ..	Slavonian, .	Laborer, ...	21	S.	Laflin, ...		Head and hand cut. Fell from Marcy to Red Ash vein, a distance of 20 feet.
14	Charles Pilla, ...	Italian, ...	Laborer, ...	31	S	Number 6, ...		Leg broken by derailed car.
	John Mitchell, ...	American, ..	Driver, ...	19	S.	Number 6, ...		Arm broken by derailed car.
	Frank Margaitis, ...	Polish, ...	Miner, ...	39	M.	Number 14, ...		Leg broken by derailed car.
16	William L. Morgan, .	Welsh, ...	Fireboss, ...	35	M.	Heidelburg No. 1, ...		Leg bruised by flying coal from blast.
23	Edward Kress, ...	American, ..	Runner, ...	19	S.	Number 9, ...		Leg broken by derailed car.
30	John Mullen, ...	American, ..	Driver, ...	20	S.	Number 6, ...		Leg broken by cars. Fell off bumper.
Feb. 4	Apolla Muhalliki, ...	Italian, ...	Miner, ...	42	M.	Butler, ...		Wrist broken by run-away car on slope.
	Dennis Pinchot, ...	Italian, ...	Miner, ...	22	S.	Butler, ...		Arm broken by runaway car.
6	Charles Popolarski, ..	Lithuanian,	Miner, ...	31	M.	Ewen, ...		Leg broken by fall of roof rock at face of breast.
7	Michael Stehur, ...	American, ..	Slatepicker, ...	15	S.	Delaware, ...		Leg broken by falling down chute. Outside.
10	John Kusiakka, ...	Russian, ...	Miner, ...	47	M.	Butler, ...		Leg broken by fall of rock while standing prop in breast.
22	Joseph Kolesset, ...	Polish, ...	Driver, ...	18	S.	Number 14, ...		Leg broken by car while spragging it.
26	Frank Hawanie, ...	Slavonian, .	Footman, ...	25	M.	Butler, ...		Leg broken by car while putting it on cage.
March 4	John Hondo, ...	Russian, ...	Miner, ...	42	M.	Pine Ridge, ...		Face and hands burned by gas while drilling.
6	Cerzo Cuarithi, ...	Italian, ...	Miner, ...	31	S.	Laflin, ...		Leg broken by fall of rock at face of breast.
17	Samuel Aprila, ...	Italian, ...	Laborer, ...	32	M.	Number 14, ...		Skull fractured by fall of rock in cross cut.
27	Thomas Kahutch, ...	Slavonian, .	Miner, ...	28	M.	Number 14, ...		Face and hands burned by gas in abandoned workings.
April 17	Dominick Sautza, ..	Russian, ...	Miner, ...	23	M.	Delaware, ...		Burned on hands and face in cross cut.
	John Patlock, ...	Russian, ...	Laborer, ...	24	M.			

TABLE 5—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
April 19	William Martin,	American,	Laborer,	34	S.	Number 6,	Luzerne,	Leg broken by pipe bursting while repairing it.
	John Harding,	English,	Machinist,	48	M.			
	Walter Woseslak,	Polish,	Miner,	34	M.	Pine Ridge,		Head and back cut by fall of rock at face of breast.
22	Victor Batiam,	Italian,	Miner,	24	S.	Butler,		Ribs broken and back bruised by fall of rock at face of breast.
	Gecando Veguda,	Italian,	Miner,	25	S.	Heidelburg No. 1,		Leg broken by fall of top coal at face of breast.
	Phillip Pann,	Italian,	Miner,	41	M.	Heidelburg No. 1,		Leg broken by fall of rock at face of breast.
29	Joseph Savick,	Polish,	Laborer,	19	S.	Mineral Spring,		Leg crushed by fall of top rock at face of gangway.
May 2	Adam Yanch,	Lithuanian,	Laborer,	27	S.	Barnum,		Leg broken by getting foot caught between rocks.
7	Francis McPartlan,	American,	Brakeman,	20	S.	Pine Ridge,		Body squeezed by car while putting it on track.
20	Charles Luhensick,	Lithuanian,	Miner,	42	M.	Ewen,		Leg broken by fall of middle rock at face of breast.
	Joseph Houston,	Irish,	Runner,	20	S.	Heidelburg No. 1,		Kicked by mule in stomach while passing it on gangway.
22	Joseph Mantane,	Italian,	Miner,	40	M.	Ewen,		Leg broken by premature blast while tamping hole at face.
23	Patrick Lydon,	Irish,	Laborer,	65	M.	Number 6,		Ribs broken by mine car running against him. Outside.
27	Michael Pillow,	Polish,	Slatepicker,	15	S.	Butler,		Arm broken by falling into coal pocket in breaker. Outside.
June 6	John Socko,	Slavonian,	Laborer,	39	M.	Madeira,		Skull fractured by prop falling on him.
	John Ragula,	Polish,	Laborer,	21	S.	Heidelburg No. 1,		Ribs broken by rock falling off rib at face of breast.
7	John Bawanko,	Polish,	Miner,	37	M.	Laflin,		Head and back cut and bruised by flying coal from blast.
11	Felix Rassi,	Italian,	Miner,	28	M.	Butler,		Leg broken by fall of rock while removing pillars.
	William Tomascavage,	Slavonian,	Loader,	39	S.	Number 6,		Thigh broken by falling from railroad car. Outside.

June	18	Stanley Chesneskle, ..	Polish, ...	Laborer, ...	28	M.	Ewen, ...	Luzerne, ..	Arm broken by car wheel while attempting to sprag it.
July	2	Robert Heeps, ...	American, ..	Driver, ...	18	S.	Number 6, ...		Arm broken by falling on gangway road.
	3	John Helicki, ...	Polish, ...	Laborer, ...	44	M.	Pine Ridge, ...		Foot broken by rock falling from roof on him.
		Michael Morzinski, ..	Polish, ...	Laborer, ...	36	M.	Laflin, ...		Head cut by premature blast.
	19	Joseph Boginski, ...	Polish, ...	Laborer, ...	18	S.	Pine Ridge, ...		Leg broken by fall of fire-clay roof at face of breast.
	22	James Killgallon, ...	Irish, ...	Miner, ...	53	M.	Pine Ridge, ...		Leg broken by falling off rear end of trip of cars on gangway.
		Peter Klass, ...	Austrian, ...	Miner, ...	33	M.	Madeira, ...		Back and hips bruised by flying coal from blast he was firing.
	26	Anthony Mustacavage,	Polish, ...	Laborer, ...	20	S.	Pine Ridge, ...		Leg broken by car he was blocking at face of breast.
	31	Carmel Morgan, ...	Italian, ...	Footman, ...	30	M.	Ewen, ...		Leg broken by car while helping to put it on cage.
Aug.	4	John Ruddy, ...	German, ...	Driver, ...	17	S.	Heidelburg No. 1, ...		Three fingers cut off while holding chain on bumper of car.
	14	John Susco, ...	Polish, ...	Laborer, ...	27	M.	Madeira, ...		Back bruised by fall of rider coal.
	21	Michael Promick, ...	Slavonian, .	Miner, ...	39	M.	Butler, ...		Thigh broken by fall of rock at face of breast.
	22	Charles Chasman, ...	Polish, ...	Runner, ...	18	S.	Mineral Spring, ...		Collar bone broken by cars while riding up slope.
Sept.	2	Harvey Armitage, ...	American, ..	Driver, ...	30	M.	Ewen, ...		Ribs broken by being squeezed between mules on gangway road.
		George Curry, ...	English, ...	Carpenter, ...	50	M.	Number 6, ...		Wrist broken by falling from scaffold in engine house. Outside.
	6	Vodaz Treasky, ...	Polish, ...	Slate boss, ...	32	S.	Barnum, ...		Leg broken by casting falling on him while sweeping floor. Outside.
	12	Roy Tishler, ...	American, ..	Brakeman, ...	23	S.	Butler, ...		Arm broken by derailed car while putting it on track.
	18	Michael Kobeck, ...	Polish, ...	Miner, ...	38	M.	Heidelburg No. 1, ...		Hip broken by car he was blocking.
	22	Charles Madden, ...	American, ..	Driver, ...	17	S.	Laflin, ...		Head cut and bruised by rock falling from side of gangway.
Oct.	4	Joseph Brola, ...	Polish, ...	Miner, ...	32	M.	Butler, ...		Leg broken by fall of rock at face of breast.
	7	Joseph Nastzas, ...	Polish, ...	Miner, ...	30	M.	Pine Ridge, ...		Hand burned by powder while making cartridge at his box.
	10	John Chiko, ...	Polish, ...	Miner, ...	37	M.	Delaware, ...		Leg broken by fall of rock at face of breast.
	11	Andrew Keroffa, ...	Slavonian, .	Runner, ...	24	S.	Number 14, ...		Leg broken by car while closing latch on gangway.
	15	Raymond Walsh, ...	American, ..	Slatepicker, ...	14	S.	Barnum, ...		Arm broken by belt while trying to place it on pulley. Outside.
	16	Andrew Beganski, ...	Lithuanian,	Runner, ...	20	S.	Laflin, ...		Hand crushed by car wheel.
	24	John Lawler, ...	American, ..	Bratticeman, ...	48	M.	Madeira, ...		Ankle broken by fall of rock while preparing place for door.
	27	William Morgan, ...	Welsh, ...	Timberman, ...	45	W.	Madeira, ...		Leg broken by rock falling from side of tunnel.
Nov.	4	Matt McAndrew, ...	American, ..	Laborer, ...	36	M.	Number 9, ...		Cut and bruised by explosion of blast.
		Henry Cluck, ...	American, ..	Driver, ...	31	M.			
		Peter Reap, ...	Irish, ...	Laborer, ...	32	S.			
	5	Thomas Hidock, ...	Polish, ...	Miner, ...	48	M.	Number 14, ...		Ribs broken by falling off pile of ties.
	8	Frank Nowack, ...	German, ...	Miner, ...	64	M.	Ewen, ...		Leg broken by flying coal from blast he was firing.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Nov. 9	Ambrose Griffith, ...	Welsh, ...	Assistant mine foreman, ...	33	M.	Number 14, ...	Luzerne, ...	Face and hands burned by gas ignited by his open light.
12	Patrick McNulty, ...	American, ..	Miner, ...	35	M.	Barnum, ...		Head cut and bruised by fall of rock at face of breast.
18	George Reardon, ...	American, ..	Runner, ...	20	S.	Laflin, ...		Shoulder dislocated. Caught between roof and loaded car on gangway.
24	Charles Sartain, ...	American, ..	Laborer, ...	64	S.	Barnum, ...		Arm and shoulder broken by cars while attempting to run across track in front of trip. Outside.
Dec. 1	John Vasilchik, ...	Austrian, ...	Laborer, ...	49	M.	Madeira, ...		Nose broken by flying coal from blast he was firing.
15	Pasqual Bordick, ...	Italian, ...	Laborer, ...	22	S.	Ridgewood, ...		Back bruised by fall of rock at face of gangway.
22	Toney Lyseyski, ...	Polish, ...	Miner, ...	37	M.	Pine Ridge, ...		Face and hand burned by gas in old workings.

CONDITION OF COLLIERIES

PENNSYLVANIA COAL COMPANY

Barnum No. 9, Ewen, Nos. 6 and 14 Collieries.—Ventilation, drainage and condition as to safety good.

HILLSIDE COAL AND IRON COMPANY

Butler Colliery.—Ventilation, drainage and condition as to safety good.

HUDSON COAL COMPANY

Pine Ridge and Laflin Collieries.—Ventilation, drainage and condition as to safety good.

LEHIGH VALLEY COAL COMPANY

Mineral Spring and Heidelburg No. 1 Collieries.—Ventilation fair; drainage and condition as to safety good.

DELAWARE AND HUDSON COMPANY

Delaware Colliery.—Ventilation, drainage and condition as to safety good.

TRADERS COAL COMPANY

Ridgeway Colliery.—Ventilation fair; drainage and condition as to safety good.

WILKES-BARRE COLLIERY COMPANY

Madeira Colliery.—Ventilation good; drainage fair; condition as to safety good.

McCAULEY COAL COMPANY

Pickaway Colliery.—Ventilation and drainage fair; condition as to safety good.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

No. 9 Colliery.—Installed new electrically driven ventilating fan, 10 by 5 feet, driven by a 20-horsepower motor and built a fan house 12 by 33 by 12 feet, corrugated iron sides and roof, with motor room 10 by 26 by 10 feet of similar material, for ventilating the Curtis slope. The Curtis was driven from the Checker vein through the rock to Pittston vein 200 feet, size 7 by 10 feet. Installed Seneca bank pickup plant, consisting of loading pocket, 17 by 20 by 40 feet, wooden structure, and 1,775 feet of belt and scraper line, the whole being operated by one 25-horsepower motor, one 65-horsepower motor and three 35-horsepower motors.

No. 8 shaft: Installed a new Dunmore pump, 20 by 12 by 30 inches, equipped with pot chambers, et cetera, in the Marcy vein near the foot of No. 3 shaft pumping station. The Clark vein plane was graded for haulage purposes, a total of 2,043 cubic yards of rock being removed. Completed a rock plane from the Marcy vein to the Pittston vein on a 12 per cent. degree grade, 7 by 14 by 346 feet.

At No. 10 shaft the rock slope, 7 by 12 by 300 feet, was driven from the Marcy to the Clark vein, and a pair of 12 by 24-inch engines installed. An air shaft 10 by 10 by 60 feet was sunk from the Marcy to the Clark vein near foot of the new slope. A rock plane was driven from the Pittston vein to the Abbot slope section of the Barnum, Checker vein, 7 by 12 by 200 feet.

Ewen Colliery: At No. 4 shaft a new brick enginehouse 27 by 40 feet was built, in which was installed a pair of 15 by 36-inch engines for operating the rope haulage in the Red Ash vein. A brick building was erected near No. 7 shaft, 107 by 33 feet, in which was stored hay, feed, lime, cement and sprags.

No. 6 Colliery.—Installed at the Wright slope a ventilating fan 20 feet in diameter, driven by a 4-valve Ridgway engine, 15 by 20 inches, inclosed with a brick building 18 by 48 feet. Erected a brick building 28 by 30 feet, to house the locomotive.

No. 14 Colliery.—Erected a brick locomotive house, 40 by 40 feet, and installed a 20-foot ventilating fan driven by a 12 by 14-inch Ridgway simplex side crank engine at Diamond slope. Built a brick supply house, 122 by 23 feet, containing loaders' room and cement, lime, feed, hay and sand rooms.

The second opening, 7 by 10 feet, to the New Diamond slope workings to the surface has been finished, a distance of 100 feet.

HILLSIDE COAL AND IRON COMPANY

Butler Colliery.—At the Thomas shaft, installed a Vulcan fan, 14 by 6 feet, operated by an 18 by 20-inch Ridgway engine. Built fan house of steel with concrete connection to shaft, 35 feet 9 inches by 21 feet by 11 feet 2 inches, and brick engine house 12 feet by 25 feet by 11 feet 2 inches in connection with the new air shaft sunk to the Red Ash vein workings. Sunk an air shaft for ventilation 12 feet by 12 feet by 200 feet.

At the Butler Marcy slope completed second opening from the Red Ash vein to Thomas shaft workings. A part of the distance was driven through coal and part through rock. This also serves as a return air course to the new fan erected near Thomas shaft. Extended Pittston water tunnel 1,800 feet beyond the Marcy vein toward the Red Ash vein of Thomas shaft.

HUDSON COAL COMPANY

Pine Ridge Colliery.—No. 19 plane in the Red Ash vein was driven 800 feet to connect No. 23 slope with Millcreek shaft. Remodelled foot of shaft at Cooper vein. All timber having been removed and replaced by steel "I" beams and concrete.

Laflin Colliery.—No. 8 slope, top bench, top split, Red Ash vein, was driven 900 feet.

LEHIGH VALLEY COAL COMPANY

Mineral Spring Colliery.—Outside: The Checker vein fan house was made fireproof by the use of metal lath and plaster. The roof over the Red Ash fan house and over the return airway in the shaft was replaced with fireproof material. Erected a hospital and mine foreman's office. The box car loader at breaker was inclosed in a structural steel house, retail pockets and scales for retail sales were installed and Spring Brook water main was tapped to supply the company houses.

Inside: Built four additional concrete stalls in the Red Ash barn to accommodate more mules. Laid double track No. 8 slope, in Red Ash vein, from foot of No. 5 plane to shaft level. Built concrete hospital in Baltimore vein slope. Floor of air bridge in return leading to the shaft in the Red Ash vein was replaced by concrete.

DELAWARE AND HUDSON COMPANY

Delaware Colliery.—No. 1 shaft was concreted from top of rock to surface, and concrete lining put between air shaft and hoistway.

McCAULEY COAL COMPANY

Pickaway Colliery.—This company's breaker was burned May 4 and the colliery shut down until new breaker was completed in December. Operations resumed December 8. The breaker has a capacity of 300 tons a day. The machinery is all protected by railings or covered over.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Y. M. C. A. Hall, Pittston, April 22 and 23. The Board of Examiners was composed of H. McDonald, Mine Inspector, Pittston; H. T. McMillan, Superintendent, West Pittston; John Gravell, Miner, West Pittston; James Martin, Miner, Avoca.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

James Donaldson, Avoca; Hugh MacDonald, Plymouth; William F. Cosgrove, Parsons.

ASSISTANT MINE FOREMEN

Richard M. Williams, Thomas Farrell, Albert J. Coles, Thomas F. O'Malley, Avoca; Herman Schultz, James A. Donohue, James Duffy, Morgan I. Watkins, Parsons; Thomas Robertson, Inkerman; James A. Hennigan, Pittston.

SEVENTH DISTRICT

LUZERNE COUNTY

Wilkes-Barre, Pa., February 14, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith the annual report of the Seventh Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

THOMAS J. WILLIAMS,
Inspector.

SUMMARY OF STATISTICS

Number of collieries,	16
Number of mines,	48
Number of mines in operation,	48
Number of tons of coal shipped to market,	5,069,211
Number of tons used at mines for steam and heat,	616,305
Number of tons sold to local trade and used by employes,.	279,690
Number of tons produced,	5,965,206
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	8,476
Number of persons employed outside,	2,375
Number of fatal accidents inside of mines,	42
Number of fatal accidents outside,	5
Number of non-fatal accidents inside of mines,	54
Number of non-fatal accidents outside,	3
Number of tons of coal produced per fatal accident inside,	142,029
Number of tons produced per fatal accident outside,	1,193,041
Number of tons produced per fatal accident inside and outside,	126,919
Number of persons employed per fatal accident inside,	202
Number of persons employed per fatal accident outside,	475
Number of persons employed per fatal accident inside and outside,	231
Number of persons employed per non-fatal accident inside,	157
Number of persons employed per non-fatal accident outside,	792
Number of persons employed per non-fatal accident inside and outside,	190
Number of wives made widows,	30
Number of children made orphans,	64
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	34
Number of compressed air locomotives used inside,	15
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	18
Number of electric motors used outside,	....
Number of fans in use,	47
Number of furnaces in use,	....
Number of gaseous mines in operation,	43
Number of non-gaseous mines in operation,	5
Number of new mines opened,	....
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Lehigh and Wilkes-Barre Coal Company,	2,815,367
Lehigh Valley Coal Company,	1,961,192
Delaware and Hudson Company,	639,891
Wilkes-Barre Anthracite Coal Company,	235,882
Red Ash Coal Company,	227,027
Rissinger Brothers and Company, Incorporated,	52,565
Pittston Coal Mining Company,	33,282
Total,	5,965,206

Production by Counties

Luzerne,	5,965,206

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh and Wilkes-Barre Coal Co., ...	20	1	21	20	......	20	140,768	140,768	4,130	892	5,022	207	892	207	....
Lehigh Valley Coal Co., ...	12	1	13	25	2	27	163,432	78,448	2,576	591	3,167	215	591	103	296
Delaware and Hudson Co., ...	2	1	3	4	......	4	319,946	159,973	857	399	1,256	429	399	214	....
Wilkes-Barre Anthracite Coal Co., ...	3	......	3	1	......	1	78,627	235,882	324	87	411	108	....	324	....
Red Ash Coal Co., ...	1	2	3	2	1	3	227,027	113,513	349	312	661	349	156	175	312
Rissinger Brothers and Co., Inc., ...	3	......	3	1	......	1	17,522	52,565	98	43	141	33	....	98	....
Pittston Coal Mining Co., ...	1	......	1	1	......	1	33,282	33,282	142	51	193	142	....	142	....
Totals and averages for district, ...	42	5	47	54	3	57	142,029	110,467	8.476	2,375	10,851	202	475	157	792

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	1	....	....	4	1	....	....	....	1	....	....	7	16.67
Falls of slate,	....	1	....	....	1	1	....	1	....	1	....	....	5	11.91
Falls of roof,	1	2	1	....	....	....	....	....	....	....	....	....	4	9.52
Mine cars,	....	....	3	....	....	....	1	1	2	....	....	....	7	16.67
Explosions of gas,	....	....	....	1	1	....	....	....	1	....	1	....	4	9.52
Explosions of powder and dynamite,	....	....	....	1	....	....	....	....	....	....	....	....	1	2.38
Blasts, premature and otherwise,	....	1	....	....	4	....	....	....	....	....	1	....	6	14.29
Falling into shafts,	1	....	1	....	....	....	....	....	....	....	....	1	3	7.14
Struck by timber,	....	....	....	....	....	....	....	1	....	....	1	....	2	4.76
Machinery,	....	....	....	....	....	....	1	....	....	....	....	....	1	2.38
Struck by piece of coal,	1	....	....	....	....	....	....	....	....	....	....	....	1	2.38
Struck by piece of rock,	1	....	....	....	....	....	....	....	....	....	....	....	1	2.38
Totals,	4	5	5	2	10	2	2	3	3	2	3	1	42	100.00
Causes of Accidents Outside														
Cars,	....	1	....	1	....	....	1	....	....	1	....	....	4	80.00
Smothered by rush of culm rock,	....	....	....	....	....	1	....	....	....	....	....	....	1	20.00
Totals,	....	1	....	1	....	1	1	....	....	1	....	....	5	100.00
Grand totals inside and outside,	4	6	5	3	10	3	3	3	3	3	3	1	47	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	2	....	....	1	1	....	1	....	....	....	....	1	6	11.11
Falls of slate,	....	....	....	....	....	1	....	....	....	....	....	....	1	1.85
Falls of roof,	3	....	....	....	....	....	....	1	....	....	....	1	5	9.26
Mine cars,	1	1	....	....	....	1	1	3	2	3	3	3	18	33.33
Explosions of gas,	....	....	....	1	2	....	1	1	2	....	....	....	7	12.96
Explosions of powder and dynamite,	....	....	....	....	....	....	....	....	....	1	....	....	1	1.85
Blasts, premature and otherwise,	....	....	....	....	....	1	1	....	....	3	1	1	7	12.96
Falling down chamber,	....	....	....	....	....	1	....	....	....	....	....	....	1	1.85
Struck by timber,	....	....	1	....	....	....	1	....	....	....	....	....	2	3.71
Struck by piece of coal,	....	....	1	....	1	1	....	....	....	....	....	....	3	5.56
Struck by rope,	....	1	....	....	....	1	....	....	....	....	....	....	2	3.71
By falling,	1	....	....	....	....	....	....	....	....	....	....	....	1	1.85
Totals,	7	2	2	2	4	6	5	5	4	7	4	6	54	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	1	....	1	....	....	....	2	66.67
Struck by piece of coal,	....	....	....	....	....	....	....	....	....	....	....	1	1	33.33
Totals,	....	....	....	....	....	....	1	....	1	....	....	1	3	100.00
Grand totals inside and outside,	7	2	2	2	4	6	6	5	5	7	4	7	57	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants, ..	....	....	....	....	....	....	1	....	....	....	....	1	2
Miners,	1	3	1	1	6	2	....	1	1	....	2	....	18
Miners' laborers,	3	2	2	1	4	....	....	1	....	2	....	....	15
Drivers and runners,	....	....	1	....	....	....	....	1	2	....	....	....	4
Masons,	....	....	....	....	....	....	....	....	....	....	1	....	1
Footmen,	....	....	....	....	....	....	1	....	....	....	....	....	1
Headmen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Totals,	4	5	5	2	10	2	2	3	3	2	3	1	42
Outside													
Laborers,	....	....	....	1	....	1	1	....	....	1	....	....	4
Drivers,	....	1	....	....	....	....	....	....	....	....	....	....	1
Totals,	....	1	....	1	....	1	1	....	....	1	....	....	5
Grand totals inside and outside,	4	6	5	3	10	3	3	3	3	3	3	1	47

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Assistant mine foremen, ...	....	....	....	....	....	....	....	....	1	....	....	....	1
Fire bosses and assistants, ...	....	....	....	1	....	....	....	....	....	....	....	....	1
Miners,	2	....	1	1	4	2	2	2	....	4	1	3	22
Miners' laborers,	3	....	1	....	....	2	2	....	....	1	....	....	9
Drivers and runners,	1	....	....	....	....	....	1	2	1	....	2	2	9
Doorboys and helpers,	....	....	....	....	....	....	....	....	....	2	....	....	2
Trackmen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Bratticemen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Oilers,	....	....	....	....	....	....	....	1	....	....	....	....	1
Headmen,	....	....	....	....	....	1	....	....	....	....	....	....	1
Engineers,	....	....	....	....	....	1	....	....	....	....	1	....	2
Footmen,	....	1	....	....	....	....	....	....	1	....	....	....	2
Timbermen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Pumpmen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals,	7	2	2	2	4	6	5	5	4	7	4	6	54
Outside													
Laborers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Loaders,	....	....	....	....	....	....	1	....	1	....	....	....	2
Totals,	....	....	....	....	....	....	1	....	1	....	....	1	3
Grand totals inside and outside,	7	2	2	2	4	6	6	5	5	7	4	7	57

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	...	1	...	....	....	....	1	....	1	....	....	....	3
English,	1	....	....	....	....	....	....	....	....	....	....	1	2
Welsh,	1	1	....	....	....	....	1	....	....	....	....	....	3
German,	....	....	....	1	....	....	....	....	....	....	....	....	1
Polish,	1	2	....	1	5	2	1	1	....	1	....	....	14
Italian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Slavonian,	....	1	....	1	....	....	....	....	....	....	1	....	3
Lithuanian,	....	1	....	....	4	1	....	....	2	....	1	....	9
Austrian,	1	....	....	....	1	....	....	....	....	....	....	....	2
Russian,	....	....	4	....	....	....	....	2	....	2	....	....	8
Swedish,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	4	6	5	3	10	3	3	3	3	3	3	1	47

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	1	1	....	....	2	....	1	1	2	1	1	11
English,	....	....	....	1	....	....	....	....	....	....	....	....	1
Welsh,	....	1	....	....	1	....	....	1	....	1	1	1	6
Irish,	1	....	....	....	....	....	....	1	....	....	....	....	2
Polish,	3	....	1	....	1	1	3	1	1	2	2	2	17
Italian,	....	....	....	....	1	....	1	....	....	1	....	....	3
Slavonian,	....	....	....	....	....	1	....	....	1	1	....	1	4
Lithuanian,	....	....	....	1	1	1	1	....	....	....	....	2	6
Austrian,	....	....	....	....	....	1	....	1	....	....	....	....	2
Russian,	1	....	....	....	....	....	1	....	2	....	....	....	4
Greek,	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals,	7	2	2	2	4	6	6	5	5	7	4	7	57

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lehigh and Wilkes-Barre Coal Co.															
Stanton No. 7 Colliery:															
Stanton, ...	Slope, ..	Gaseous, ..	Fan, ...	35	11.7	8.9	45	1.5	Guibal, ...	Steam, ...	31	544,780	500,080	587,670	1,015
Stanton, ...	Shaft, ...			34.5	11.9	8.45	45	1.5							
Empire No. 4, ...	Shaft, ...			24	8	6	60	1.2							
Maxwell No. 20 Colliery:															
Maxwell No. 1, ...	Slope, ..	Gaseous, ..	Fan, ...	25	8.2	6.3	72	1.8	Guibal, ...	Steam, ...	28	470,520	434,020	497,710	668
Maxwell No. 2, ...	Shaft, ...			24	8	6	72	1.8							
Maxwell No. 3, ...	Shaft, ...			35	11.9	8.9	45	1.3							
Maxwell No. 4, ...	Shaft, ...			35	11.9	8.9	45	1.3							
South Wilkes-Barre No. 5 Colliery:															
South Wilkes-Barre No. 1	Shaft, ...	Gaseous, .	Fan, ...	35	11.9	8.9	45	1.5	Guibal, ...	Steam, ...	43	470,990	398,075	528,495	811
South Wilkes-Barre No. 2				35	11.9	8.9	45	1.5							
South Wilkes-Barre No. 3				35	11.9	8.9	45	1.9							
South Wilkes-Barre No. 4				35	11.9	8.9	45	1.9							
Hollenback No. 2 Colliery:															
Hollenback No. 1, ...	Shaft, ...	Gaseous, .	Fan, ...	35	11.6	8.9	45	1.4	Guibal, ...	Steam, ...	19	295,200	266,540	345,000	583
Hollenback No. 2, ...	Slope, ..			24	7.11	6.0	60	1.4							
Hollenback No. 3, ...	Slope, ..			35	11.9	8.9	45	1.7							
Hollenback No. 4, ...	Shaft, ...			35	11.9	8.9	45	1.7							

Sugar Notch No. 9 Colliery:															
Sugar Notch,	Shaft,	Gaseous,	Fan,	20	6.8	5.0	70	1.3							
Sugar Notch,	Tunnel,	Gaseous,	Fan,	24	8	6	60	1.3	Guibal,	Steam,	14	370,130	315,160	462,000	510
Lehigh Valley Coal Co. Dorrance Colliery:															
Baltimore,	Shaft,	Gaseous,	Fan,	28	8	8	60	1.7	Guibal,	Steam,	10	230,000	209,920	261,427	314
Hillman,	Shaft,	Gaseous,	Fan,	35	12	10.6	47	1.9							
			Fan,*	30	10	8	54	1.9	Guibal,	Steam,	8	174,000	165,400	181,573	352
Henry Colliery:															
Henry,	Shaft,	Gaseous,	Fan,	30	10	8	54	2.7	Guibal,	Steam,	5	106,430	58,830	120,620	86
Henry,	Shaft,			28	6.6	7.6	46	1.6			4	88,780	85,800	10,500	182
Wyoming,	Shaft,			25	7	6	50	1.1			9	89,780	77,340	106,925	103
Red Ash,	Shaft,			28	6.6	7.6	52	1.7			6	185,128	150,462	208,266	205
Five Foot,	Slope,			20	6	5.8	60	.9			6	75,926	64,684	96,921	128
Prospect Colliery:															
Prospect,	Shaft,	Gaseous,	Fan,	30	9	8	52	1.7	Guibal,	Steam,	8	153,200	115,430	157,500	200
Oakwood,	Shaft,			30	9	8	52	1.8			6	159,219	129,155	163,801	260
Midvale,	Slope,			20	6.6	5.3	66	1.2			7	98,720	98,720	106,350	153
Franklin Colliery:															
Rock Slope,	Slope,	Gaseous,	Fan,	20	6	5.9	80	1.7	Guibal,	Steam,	5	92,400	90,400	94,800	157
Kidney,	Slope,	Gaseous,	Fan,	14	6	4	80	.8			3	63,400	60,400	64,900	63
Sump and Baltimore,	Slope,	Gaseous,	Fan,	15	4.6	4.6	80	2.1			2	27,500	26,300	29,100	44
			Fan,*	15	4.6	4.6	80	2.1			..	....	....	....	......
Franklin,	Drift,	Non-gas.,	Natural,	......	......	.....	.....	......	....	....	3	21,600	18,400	22,900	75
Warrior Run Colliery:															
Warrior Run No. 4,	Slope,	Gaseous,	Fan,	20	6	5	75	1.2	Guibal,	Steam,	5	121,150	129,950	129,950	104
Warrior Run No. 4,	Slope,	Gaseous,	Fan,	14	4	4	75	.8	Guibal,	Steam,	2	28,000	29,500	29,500	71
Delaware and Hudson Co. Baltimore No. 5 Colliery:															
Baltimore No. 2,	Shaft,	Gaseous,	Fan,	17.5	5.3	4.8	64	2.2	Guibal,	Steam,	4	126,385	109,895	141,975	160
Baltimore No. 5,				28	7	5.6	65	2.8			5	192,605	168,050	207,130	213
Baltimore No. 5,				28	7	5.6	65	2.8							
Conyngham Hillman,				20	5.8	5	78	1.8			3	85,770	80,640	80,930	88
Conyngham Baltimore,				17	5.4	4	90	1.7			4	102,920	91,350	125,960	23
Baltimore Tunnel Colliery:															
Baltimore Tunnel,	Shaft,	Gaseous,	Fan,	8	3	2.2	75	.8	Guibal,	Steam,	3	212,000	18,430	23,120	81
Baltimore Tunnel,	Tunnel,	Gaseous,	Fan,	18	6	5	52	1	Guibal,	Steam,	4	97,310	78,820	116,550	128
Wilkes-Barre Anthracite Coal Co. Hillman Vein Colliery:															
Hillman Vein,	Shaft,	Gaseous,	Fan,	30	9.9	8.8	54	.6	Tamaqua,	Steam,	4	92,200	73,300	107,100	324

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*Emergency fan.

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Red Ash Coal Co.															
Red Ash No. 2 Colliery:															
Red Ash No. 1, ...	Slope, ...	Non-gas., .	Fan, ...	15	5	3.9	78	1.6	Vulcan, ...	Steam,......	3	41,250	38,600	47,000	228
Red Ash No. 2, ...	Slope, ...	Non-gas., .	Fan, ...	15	5	3.9	47	1.6	Vulcan, ...	Steam,......	6	42,800	58,945	43,275	121
Red Ash No. 2, ...	Tunnel, ..	Non-gas., .													
Rissinger Brothers and Co., Inc.															
Miners Mills Colliery:															
Miners Mills No. 2, ...	Slope, ...	Gaseous, ..	Fan, ...	9.1	2.5	2	78	.4	Buffalo, ...	Electricity, .	1	30,200	30,250	30,250	13
Miners Mills No. 1, ...	Slope, ...	Non-gas., .	Fan, ...	5.1	2.2	1.6	212	.4	Buffalo, ...	Electricity, .	1	29,800	29,880	29,880	17
Pittston Coal Mining Co.															
Hadleigh Colliery:															
Hadleigh, ...	Shaft,.....	Gaseous, ..	Fan, ..	16.6	4	5	65	.9	Guibal, ...	Steam,......	3	42,000	35,000	47,500	142
Hadleigh, ...	Slope, ...	Gaseous, ..													

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh and Wilkes-Barre Coal Co.						
Stanton No. 7,	Luzerne,	C. F. Huber, General Manager,	Wilkes-Barre,	E. J. Newbaker,	Wilkes-Barre,	C. R. R. of N. J.
Maxwell No. 20,						
South Wilkes-Barre No. 5,						
Hollenback No. 2,						
Sugar Notch No. 9,						
Empire Washery,						
Lehigh Valley Coal Co.						
Dorrance,	Luzerne,	Thomas Thomas,	Wilkes-Barre,	John H. Haertter,	Wilkes-Barre,	Lehigh Valley
Henry,						
Prospect,						
Franklin,						
Warrior Run,						
Delaware and Hudson Co.						
Baltimore No. 5,	Luzerne,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Baltimore Tunnel,						
Baltimore Tunnel Washery,						
Wilkes-Barre Anthracite Coal Co.						
Hillman Vein,	Luzerne,	Thomas H. Price,	Wilkes-Barre,	Thomas H. Price,	Wilkes-Barre,	Lehigh Valley
Hillman Vein Washery,						
Red Ash Coal Co.						
Red Ash No. 2,	Luzerne,	T. F. Minford,	Wilkes-Barre,	T. F. Minford,	Wilkes-Barre,	C. R. R. of N. J.
Red Ash Washery,						
Rissinger Brothers and Co., Inc.						
Miners Mills,	Luzerne,	H. E. Rissinger,	Pittston,			Lehigh Valley
Pittston Coal Mining Co.						
Hadleigh,	Luzerne,	C. M. O'Boyle,	Sugar Notch,	William Managan,	Sugar Notch,	C. R. R. of N. J.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh and Wilkes-Barre Coal Co.													
Stanton No. 7,	Luzerne,	621,499	54.811	15,949	692,259	273	1,317	4	1	598,900	15,873	15,865	137
Maxwell No. 20,		566,455	44,344	11,767	622,566	239	952	5	6	400,250	9,059	40,728	110
South Wilkes-Barre No. 5,		468,612	47,301	104,717	620,630	240	1,214	8	9	456,800	18,750	67,731	130
Hollenback No. 2,		375,330	43,885	53,501	472,716	245	846	2	3	379,975	12,560	38,660	86
Sugar Notch No. 9,		280,436	28,997	3,603	313,036	217	655	2	1	154,900	16,386	100,549	79
		2,312,332	219,338	189,537	2,721,207	......	4,984	21	20	1,990,825	72,628	263,533	542
Empire Washery,	Luzerne,	93,364	485	311	94,160	190	38	......	......	....	....	....	8
Totals,	....	2,405,696	219,823	189,848	2,815,367	......	5,022	21	20	1,990,825	72,628	263,533	550
Lehigh Valley Coal Co.													
Dorrance,	Luzerne,	434,497	52,380	46,875	533,752	250	786	4	3	378,700	61,494	12,625	69
Henry,		458,520	42,415	5,370	506,305	*	832	6	7	264,250	231,900	....	141
Prospect,		386,333	55,972	....	442,305	247	841	......	6	275,875	44,647	....	104
Franklin,		272,780	37,456	6,640	316,876	253	488	1	8	196,750	61,338	....	95
Warrior Run,		143,497	17,570	887	161,954	*	220	2	3	83,750	4,247	6,850	31
Totals,	....	1,695,627	205,793	59,772	1,961,192	......	3,167	13	27	1,199,325	403,626	19,475	440

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*Coal prepared at Prospect Breaker.

Delaware and Hudson Co.													
Baltimore No. 5,	Luzerne,	321,126	12,022	4,070	337,218	224	862	2	2	258,900	3,827	38	75
Baltimore Tunnel,		182,933	1,714	3,787	188,434	198	394	1	2	116,650	2,087	....	17
		504,059	13,736	7,857	525,652	......	1,256	3	4	375,550	5,914	38	92
Baltimore Tunnel Washery,	Luzerne,	....	114,239	....	114,239	198	†	......	......	....	....	....	......
Totals,	....	504,059	127,975	7,857	639,891	......	1,256	3	4	375,550	5,914	38	92
Wilkes-Barre Anthracite Coal Co.													
Hillman Vein,	Luzerne,	159,973	45,000	13,067	218,040	284	399	3	1	107,000	14,500	15,400	27
Hillman Vein Washery,		17,842	....	....	17,842	113	12	......	......	....	....	....	......
Totals,	....	177,815	45,000	13,067	235,882	......	411	3	1	107,000	14,500	15,400	27
Red Ash Coal Co.													
Red Ash No. 2,	Luzerne,	161,622	....	6,484	168,106	172	661	3	3	90,100	48,500	....	58
Red Ash Washery,		48,455	9,414	1,052	58,921								
Totals,	....	210,077	9,414	7,536	227,027	......	661	3	3	90,100	48,500	....	58
Rissinger Brothers and Co., Inc.													
Miners Mills,	Luzerne,	49,012	2,000	1,553	52,565	243	141	3	1	63,150	2,500	....	11
Pittston Coal Mining Co.													
Hadleigh,	Luzerne,	26,925	6,300	57	33,282	136	193	1	1	16,200	3,700	15,350	12
Grand totals,	....	5,069,211	616,305	279,690	5,965,206	......	10,851	47	57	3,842,150	551,368	313,796	1,190

†Included with employes at Baltimore Tunnel.

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Lehigh and Wilkes-Barre Coal Co.,	Luzerne,	......	......	58	11,942	11,942	8	13	......	232	22,128	15	16,486	8,870	1	17
Lehigh Valley Coal Co.,		......	......	44	9,400	9,400	13	2	14	116	16,810	13	14,900	9,260	5	9
Delaware and Hudson Co.,		21	567	33	7,075	7,642	1	......	4	126	10,047	12	9,900	4,700	4	3
Wilkes-Barre Anthracite Coal Co.,		......	......	6	2,000	2,000	......	......	......	13	2,270	2	1,200	1,000	1	1
Red Ash Coal Co.,		3	900	......	......	900	6	......	......	24	1,527	2	700	675	......	......
Rissinger Brothers and Co., Inc.,		......	......	2	180	180	......	......	......	......	......	......	......	......	......	......
Pittston Coal Mining Co.,		......	......	2	550	550	6	......	......	6	......	1	700	500	......	......
Totals,	....	24	1,467	145	31,147	32,614	34	15	18	517	52,782	45	43,886	25,005	11	30

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh and Wilkes-Barre Coal Co., ...	Luzerne, ...	6	17	56	1,518	947	416	256	22	892	....	4,130	....	6	33	148	176	31	21	477	892	5,022
Lehigh Valley Coal Co.,		13	72	....	943	529	341	87	30	......	561	2,576	....	5	36	109	33	15	14	379	591	3,167
Delaware and Hudson Co., ...		4	2	11	221	312	94	4	18	168	23	857	....	4	21	76	34	43	4	217	399	1,256
Wilkes-Barre Anthracite Coal Co., ...		1	6	3	86	95	56	9	8	29	31	324	1	2	7	17	12	....	9	39	87	411
Red Ash Coal Co., ...		2	1	....	126	124	40	6	4	46	....	349	1	6	13	25	11	23	3	220	312	661
Rissinger Brothers and Co., Inc., ...		2	1	....	36	32	8	....	1	18	....	98	1	1	2	3	12	....	1	23	43	141
Pittston Coal Mining Co., ...		1	....	1	60	40	15	3	1	14	7	142	1	1	7	8	3	2	1	28	51	193
Totals, ...	....	29	99	71	2,990	2,079	970	365	84	1,167	622	8,476	4	25	119	386	281	121	53	1,383	2,375	10,851

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh and Wilkes-Barre Coal Co.,	Luzerne,	23	21	19	21	19	21	19	14	19	23	19	21	239
Lehigh Valley Coal Co.,		24	22	16	20	22	23	19	19	20	22	22	21	250
Delaware and Hudson Co.,		21	19	20	19	17	18	12	16	18	19	15	17	211
Wilkes-Barre Anthracite Coal Co.,		24	23	24	24	24	23	23	24	24	26	21	24	284
Red Ash Coal Co.,		17	17	12	8	12	10	12	13	15	19	18	19	172
Rissinger Brothers and Co., Inc.,		24	21	20	15	23	20	20	19	18	22	21	20	243
Pittston Coal Mining Co.,		......	......	......	......	......	9	17	19	22	22	25	22	136

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 23	Thomas Chernoskie, ..	Polish, ...	Laborer, ...	38	M.	1	5	Dorrance, ...	Luzerne,	Instantly killed by falling off cage into shaft.
	Albert Beverly, ...	English, ...	Laborer, ...	36	S.	....	....	Stanton No. 7, ...		Fatally injured by fall of rock from side of shaft.
25	John Fedor, ...	Austrian, ..	Miner, ...	24	M.	1	....	Red Ash No. 2, ...		Fatally injured by fall of roof at face of gangway.
29	John Price, ...	Welsh, ...	Laborer, ...	54	M.	1	3	Sugar Notch No. 9, ..		Instantly killed by fall of coal from chute in chamber.
Feb. 10	Peter Wesneskie, ...	Polish, ...	Miner, ...	52	M.	1	....	Stanton No. 7, ...		Instantly killed by fall of coal at face of chamber.
21	George Hires, ...	Slavonian, ..	Miner, ...	57	M.	1	....	Miners Mills, ...		Instantly killed by fall of slate at face of chamber.
	Steve Maloney, ...	American, ..	Driver, ...	19	S.	....	....	Red Ash No. 2, ..		Fatally injured by cars on stripping. Outside.
	Thomas Thomas, ...	Welsh, ...	Laborer, ...	48	M.	1	4	Miners Mills, ...		Instantly killed by blast in cross cut.
27	Watslof Manovitch, ..	Polish, ...	Miner, ...	36	M.	1	3	Henry, ...		Fatally injured by fall of roof near face of chamber.
	Anthony Rumsis, ...	Lithuanian,	Laborer, ...	32	M.	1	....	Stanton No. 7, ...		Fatally injured by fall of roof at face of chamber.
March 4	William Hornick, ...	Russian, ...	Laborer, ...	40	M.	1	3	Hillman Vein, ...		Fatally injured by cars on slope.
11	Charles Stan, ...	Russian, ...	Laborer, ...	30	S.	....	....	Hillman Vein, ...		Fatally injured by falling down shaft.
15	Patrick Grove, ...	Italian, ...	Driver, ...	24	S.	....	....	South Wilkes-Barre No. 5,		Fatally injured by cars in tunnel.
19	Joseph Solvent, ...	Russian, ...	Miner, ...	25	M.	1	1	Dorrance, ...		Fatally injured by fall of roof at face of gangway.
20	Michael Hoodock, ...	Russian, ...	Headman, ...	22	S.	....	....	Baltimore No. 5, ..		Instantly killed by cars on slope.
April 9	George Hudock, ...	Slavonian, ..	Miner, ...	32	M.	1	4	Maxwell No. 20, ...		Instantly killed by explosion of gas on plane.
23	Fred Meiman, ...	German, ...	Laborer, ...	76	M.	1	4	Baltimore Tunnel, ..		Instantly killed by railroad cars. Outside.
30	Frank Holshelfski, ...	Polish, ...	Laborer, ...	22	S.	....	....	Henry, ...		Fatally burned by explosion of powder at face of chamber.
May 6	Anthony Shesko, ...	Lithuanian,	Miner, ...	30	M.	1	2	South Wilkes-Barre No. 5,		Instantly killed by premature blast at face of chamber.
	Andrew Wasnalis, ...	Lithuanian,	Laborer, ...	30	S.	....	....	South Wilkes-Barre No. 5,		Fatally injured by premature blast at face of chamber.

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
May 6	Charles Kiladay, ...	Lithuanian,	Miner, ...	41	M.	1	2	Dorrance, ...	Luzerne,	Fatally injured by premature blast at face of chamber.
7	Peter Runscavage, ...	Polish,......	Laborer, ...	22	S.	....	....	Henry, ...		Fatally burned by explosion of gas at face of chamber.
10	Andrew Kordosh, ...	Polish,......	Miner, ...	45	M.	1	4	Henry, ...		Fatally injured by fall of coal at face of pillar.
14	Anthony Arnbros, ...	Lithuanian,	Miner, ...	26	S.	....	....	Hollenback No. 2, ..		Instantly killed by blast at face of chamber.
19	Charles Smith, ...	Polish,......	Miner, ...	26	S.	....	....	Baltimore No. 5, ...		Killed by fall of coal at face of chamber.
	Andrew Tener, ...	Austrian, ..	Laborer, ...	41	M.	1	5	Warrior Run, ...		Killed by fall of coal at face of pillar.
22	Charles Luskyk, ...	Polish,......	Laborer, ...	27	M.	1	3	South Wilkes-Barre No. 5,		Fatally injured by fall of coal at face of chamber.
28	Anthony Bijarski, ...	Polish,......	Miner, ...	38	M.	1	4	Warrior Run, ...		Killed by fall of slate at face of chamber.
June 14	Peter Kropjack, ...	Polish,......	Miner, ...	26	S.	....	....	Dorrance, ...		Fatally injured by fall of slate at face of chamber.
	Stanley Klemaski, ...	Polish,......	Miner, ...	48	M.	1	....	Maxwell No. 20, ...		Killed by fall of coal at face of chamber.
23	Michael Duncan, ...	Lithuanian,	Laborer, ...	26	M.	1	1	Red Ash No. 2, ...		Smothered by rush of culm on bank. Outside.
July 15	David R. Evans, ...	Welsh, ...	Fire boss, ..	30	M.	1	1	South Wilkes-Barre No. 5,		Instantly killed by cars on plane.
18	Joseph Daniels, ...	Polish,......	Laborer, ...	29	S.	....	....	Stanton No. 7, ...		Fatally injured by cars. Outside.
19	Edgar Kinney, ...	American, ..	Footman, ...	28	M.	1	2	Sugar Notch No. 9,..		Fatally injured by machinery in pump room.
Aug. 5	John Zebanskie, ...	Russian, ...	Miner, ...	46	M.	1	1	Maxwell No. 20, ...		Killed by fall of slate at face of chamber.
6	John Lavendosky, ...	Polish,......	Runner, ...	20	S.	....	....	Henry, ...		Fatally injured by timber falling on him on gangway.
8	Peter Rakosky, ...	Russian, ...	Laborer, ...	32	S.	....	....	Henry, ...		Fatally injured by cars on plane.
Sept. 15	John Lavin, ...	American, ..	Driver, ...	42	M.	1	2	Maxwell No. 20, ...		Fatally injured by cars on gangway.
25	John Rinko, ...	Lithuanian,	Driver, ...	17	S.	....	....	Miners Mills, ...		Instantly killed by cars on gangway.
	Frank Oickaites, ...	Lithuanian,	Miner, ...	26	S.	....	....	South Wilkes-Barre No. 5,		Fatally burned by explosion of gas at face of chamber.
Oct. 9	Barney Cigaro, ...	Russian, ...	Laborer, ...	41	M.	1	4	Franklin, ...		Fatally injured by cars. Outside.
17	Mike Shaguski, ...	Russian, ...	Laborer, ...	38	S.	....	....	Hadleigh, ...		Killed by fall of slate at face of chamber.
23	Alex Rutkofski, ...	Polish,......	Laborer, ...	35	M.	1	3	Maxwell No. 20, ...		Fatally injured by fall of coal at face of chamber.

Nov.	5	Nelson Swanson, ...	Swedish,....	Mason, ...	56	M	1	....	South Wilkes-Barre No. 5,	Luzerne,	Fatally injured by timber rolling on him on gangway.
	10	Andrew Rumiski, ...	Lithuanian,	Miner, ...	38	M.	1	3	Hollenback No. 2, ..		Fatally burned by explosion of gas at face of chamber.
	17	Steven Peters, ...	Slavonian, ..	Miner, ...	24	M.	1	....	Hillman Vein, ...		Killed by blast at face of chamber.
Dec.	22	James Stevens, ...	English, ...	Fire boss, ...	47	M.	1	....	South Wilkes-Barre No. 5,		Killed by falling down shaft.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 18	Joseph Zaleskie,	Polish,	Laborer,	21	S.	Baltimore Tunnel,	Luzerne,	Ribs fractured by fall of coal at face of chamber.
23	John Sabinski,	Russian,	Laborer,	42	M.	Warrior Run,		Leg fractured by fall of roof at face of chamber.
	Joseph Barnick,	Greek,	Laborer,	29	M.	Warrior Run,		Seriously injured by fall of roof at face of chamber.
24	Michael Cunningham,	Irish,	Pumpman,	42	M.	Baltimore No. 5,		Collar and wrist fractured by falling off top of pump.
25	Roman Blostick,	Polish,	Miner,	22	S.	Warrior Run,		Leg fractured by fall of coal at face of chamber.
27	Anthony Malloy,	American,	Driver,	24	S.	Maxwell No. 20,		Seriously injured by cars on gangway.
28	Adam Petal,	Polish,	Miner,	48	M.	South Wilkes-Barre No. 5,		Seriously injured by fall of roof at face of chamber.
Feb. 17	Edmund Reese,	Welsh,	Timberman,	31	M.	Prospect,		Leg fractured by cars on gangway.
27	Thomas Larkin,	American,	Footman,	23	M.	Dorrance,		Leg fractured by being struck by rope at foot of slope.
March 20	Charles Wagner,	American,	Laborer,	23	M.	Baltimore No. 5,		Leg fractured by prop falling on him in chamber.
25	Anthony Yantz,	Polish,	Miner,	49	M.	Baltimore Tunnel,		Leg fractured by coal rolling on him in chamber.
April 9	John H. Dawe,	English,	Fire boss,	57	M.	Maxwell No. 20,		Seriously burned by explosion of gas on plane.
26	Andrew Lescavage,	Lithuanian,	Miner,	46	M.	Franklin,		Leg fractured by fall of coal at face of chamber.
May 7	Frank Chickoskie,	Polish,	Miner,	36	M.	Henry,		Severely burned by explosion of gas at face of chamber.
24	Lisander Marconi,	Italian,	Miner,	33	M.	Franklin,		Leg fractured by being struck by piece of coal in chute.
26	Adolph Mickalonis,	Lithuanian,	Miner,	26	S.	Maxwell No. 20,		Slightly burned by explosion of gas at face of chamber.
31	Enoch C. Williams,	Welsh,	Miner,	51	M.	Maxwell No. 20,		Leg fractured by fall of coal in cross cut.
June 2	Mike August,	Austrian,	Miner,	48	M.	Hollenback No. 2,		Leg fractured by blast at face of chamber.
4	Wadaic Sewitskie,	Polish,	Laborer,	21	S.	Sugar Notch No. 9,		Leg fractured by falling down chamber.
16	Charles Legas,	Lithuanian,	Miner,	39	M.	Red Ash No. 2,		Leg fractured by fall of slate at face of chamber.

June	21	Adam Opik, ...	Slavonian,..	Laborer, ...	53	M.	Red Ash No. 2, ...	Luzerne,	Ankle fractured by fall of coal on slope.
	24	Thomas Lally, ...	American, ..	Engineer, ...	50	M.	Dorrance, ...		Legs fractured by being struck by rope on slope.
	25	Frank Dinian, ...	American, ..	Headman, ...	31	M.	Henry, ...		Legs fractured by cars on slope.
July	1	Joseph Raduts, ...	Lithuanian,	Laborer, ...	28	S.	South Wilkes-Barre No. 5,		Slightly burned by explosion of gas at face of chamber.
	8	Peter Davitt, ...	Polish,......	Laborer, ...	47	M.	South Wilkes-Barre No. 5,		Toe cut off by piece of falling timber in chamber.
	14	Alexander Munkcui, ..	Italian, ...	Miner, ...	38	M.	Henry, ...		Seriously injured by premature blast at face of chamber.
	25	George Bedwarick, ...	Polish,......	Driver, ...	18	S.	Franklin, ...		Leg and thigh broken by cars on gangway.
		John Gulunskie, ...	Polish,......	Miner, ...	27	M.	Franklin, ...		Leg broken by fall of coal at face of chamber.
	29	Mike Hafosto, ...	Russian, ...	Loader, ...	40	M.	Dorrance, ...		Pelvis fractured by cars under breaker. Outside.
Aug.	7	Peter Kochuba, ...	Polish,......	Driver, ...	18	S.	Franklin, ...		Leg fractured by cars in chamber.
	14	Robert Williams, ...	Welsh, ...	Miner, ...	38	S.	Hillman Vein, ...		Leg fractured by fall of roof at face of chamber.
	22	John Debosh, ...	Austrian, ..	Miner, ...	27	S.	Hollenback No. 2, ...		Slightly burned by explosion of gas at face of chamber.
	25	Edmund Mullen, ...	American, ..	Driver, ...	19	S.	Maxwell No. 20, ...		Leg fractured by cars at foot of plane.
	29	Edward Smith, ...	Irish, ...	Oiler, ...	18	S.	Hadleigh, ...		Slightly injured by cars on slope.
Sept.	15	Joseph Matusic, ...	Polish,......	Bratticeman, ...	32	S.	Prospect, ...		Slightly burned by explosion of gas in old workings.
		Goulage Hilbire, ...	American, ..	Assistant foreman,	36	M.	Prospect, ...		
	25	Peter Nohols, ...	Russian, ...	Loader, ...	31	M.	Franklin, ...		Leg fractured by railroad cars near breaker. Outside.
		Enoch Lavindoskie, ..	Russian, ...	Driver, ...	26	S.	Prospect, ...		Toe crushed by cars at foot of slope.
	26	Vincent Olilski, ...	Slavonian, ..	Footman, ...	19	S.	Prospect, ...		Leg fractured by cars at foot of shaft.
Oct.	2	Mike Switch, ...	Slavonian, ..	Miner, ...	26	M.	Henry, ...		Arm fractured by explosion of blast at face of chamber.
	13	Hugh Roberts, ...	Welsh, ...	Miner, ...	40	M.	Maxwell No. 20, ...		Leg fractured by explosion of blast at face of chamber.
	22	John Ruddy, ...	American, ..	Doorboy, ...	16	S.	Prospect, ...		Thigh fractured by runaway car on gangway.
		Joseph Zak, ...	Polish,......	Miner, ...	21	S.	South Wilkes-Barre No. 5,		Severely burned by explosion of powder at face of chamber.
	24	Leo Gorham, ...	American, ..	Patcher, ...	17	S.	South Wilkes-Barre No. 5,		Shoulder fractured by cars on gangway.
	25	Adam Studloskie, ...	Polish,......	Laborer, ...	52	S.	Henry, ...		Leg fractured by cars on gangway.
	27	Nicholas Manaco, ...	Italian, ...	Miner, ...	27	M.	Franklin, ...		Arm fractured by blast at face of chamber.
Nov.	3	James Owens, ...	American, ..	Driver, ...	22	S.	South Wilkes-Barre No. 5,		Collar bone fractured by cars at foot of shaft.
	5	J. B. Williams, ...	Welsh, ...	Engineer, ...	36	M.	South Wilkes-Barre No. 5,		Hand crushed by cars on gangway.
	10	Stanley Cocheskie, ...	Polish,......	Miner, ...	25	S.	Henry, ...		Arm fractured by blast at face of chamber.
	19	George Wansack, ...	Polish,......	Driver, ...	18	S.	Henry, ...		Arm injured by cars on gangway.
Dec.	2	Alex Cherbouskis, ...	Lithuanian,	Miner, ...	29	M.	South Wilkes-Barre No. 5,		Ankle fractured by fall of roof on chamber road.
	10	John C. Thomas, ...	Welsh, ...	Driver, ...	54	M.	Stanton No. 7, ...		Arm fractured by cars at foot of plane.
	15	Charles Waruska, ...	Slavonian, ..	Laborer, ...	20	S.	Red Ash No. 2, ...		Leg fractured by fall of coal on stripping. Outside.
	19	John Haley, ...	Polish,......	Driver, ...	23	S.	Miners Mills, ...		Seriously injured about body by cars on **gangway.**

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Dec. 19	Joseph Strimortis, ...	Lithuanian,	Miner, ...	24	M.	South Wilkes-Barre No. 5,	Luzerne,	Arm fractured by premature blast at face of chamber.
22	Steven Culnay, ...	Polish,......	Miner, ...	50	M.	Hollenback No. 2, ...		Leg fractured by fall of coal at face of chamber.
31	William J. Walsh, ...	American, ..	Track man, ...	37	M.	Franklin, ...		Foot crushed by cars on gangway.

CONDITION OF COLLIERIES

LEHIGH AND WILKES-BARRE COAL COMPANY

Stanton No. 7, Maxwell No. 20, South Wilkes-Barre No. 5, Hollenback No. 2 and Sugar Notch No. 9 Collieries.—Ventilation, roads, drainage and condition as to safety good.

LEHIGH VALLEY COAL COMPANY

Dorrance, Henry, Prospect, Franklin and Warrior Run Collieries.—Ventilation, roads, drainage and condition as to safety good.

DELAWARE AND HUDSON COMPANY

Baltimore Tunnel and Baltimore No. 5 Collieries. — Ventilation, roads, drainage and condition as to safety good.

WILKES-BARRE ANTHRACITE COAL COMPANY

Hillman Vein Colliery.—Ventilation, roads, drainage and condition as to safety good.

RED ASH COAL COMPANY

Red Ash No. 2 Colliery.—Ventilation, roads and drainage fair; condition as to safety good.

RISSINGER BROTHERS AND COMPANY, INCORPORATED

Miners Mills Colliery.—Ventilation, roads and drainage fair; condition as to safety good.

PITTSTON COAL MINING COMPANY

Hadleigh Colliery.—Ventilation, roads and drainage fair; condition as to safety good.

IMPROVEMENTS

LEHIGH AND WILKES-BARRE COAL COMPANY

Stanton No. 7 Colliery.—Inside: Completed No. 31 tunnel, bottom to top, Red Ash; No. 18 tunnel, Hillman to Kidney; No. 19 tunnel. Baltimore to Five Foot. Rock plane airway, top Red Ash to Ross; No. 11 tunnel, West Empire; tunnel top to bottom Red Ash, No. 2 tunnel west.

Outside: Installed slush pump.

Maxwell No. 20 Colliery.—Completed No. 6 plane, bottom to top Red Ash; tunnel top to bottom Red Ash, No. 4 tunnel east; No. 29 tunnel Hillman to Kidney; two tunnels bottom to top Red Ash, No. 20 tunnel east. Installed 10 by 36-inch compound pump on 4th lift, No. 4 slope.

South Wilkes-Barre No. 5 Colliery.—Completed No. 29 tunnel, top to bottom Baltimore; Rock slope, Hillman to Hillman, No. 3 slope; tunnel, Stanton to Stanton, First East No. 12 plane.

Outside: Installed feed water heating system.

Hollenback No. 2 Colliery.—Inside: Completed tunnel Stanton to Stanton; Rock plane airway Kidney to Abbott; Nos. 33 and 34 tunnels Stanton to Stanton; No. 35 tunnel top to bottom Red Ash; tunnel, bottom to top, Red Ash, 3rd east, No. 1 plane; No. 36 tunnel, bottom to top, Red Ash and No. 37 tunnel, bottom to top, Red Ash.

Outside: Completed wash house.

Sugar Notch No. 9 Colliery.—Completed No. 24 tunnel Baltimore to Five Foot; Rock plane airway Kidney to surface; No. 28 tunnel Hillman to Hillman; No. 29 tunnel Twin to Ross and installed 10 by 36-inch compound pump on shaft level.

Outside: Completed wash house.

LEHIGH VALLEY COAL COMPANY

Henry Colliery.—In the Wyoming Five Foot slope a tunnel 145 feet long was driven through a fault to the Five Foot vein. The manway in this vein was also extended to the bottom of the slope. A concrete barn to accommodate 30 mules was constructed in the Hillman vein. In the Henry Five Foot vein a new concrete hospital and a fire boss station were erected. A manway from the second life west to the head of No. 14 slope in the Five Foot vein was started. A concrete waiting room was built in the Skidmore Landing in the tender shaft to accommodate the men waiting for the cage. A tunnel 675 feet long was driven from the Baltimore vein from which one 3-inch and two 6-inch holes were drilled to tap the water at the Maltby colliery. A new manway parallel to No. 28 slope in the Red Ash vein was driven.

Outside: The old boiler house was converted into a locomotive house. A new engine house was built for the Wyoming Five Foot slope and the engines from the Prospect-Hillman slope were transferred to this house. A new outside hospital was also erected. A 20-inch terra cotta line was installed to take care of the discharge of the Henry pumps and also the surface water, conveying it to a ditch at the Port Bowkley station. A 28 by 17½ by 20 by 30-inch Norwalk compressor was added to the power plant. Drilling operations for determination of rock cover were carried on in the Susquehanna river. A manway was driven from the surface to the Five Foot vein, and the Henry Shaft was abandoned for hoisting. The head frame at the old Wyoming shaft was torn down and a concrete wall placed around the shaft. The landing at the Red Ash Tender shaft was raised and the yard in the vicinity was filled in and the tracks rearranged.

Dorrance Colliery.—Fireproof hospitals were built in the Hillman and Red Ash veins. A concrete fire boss station was also built in the Hillman vein. Three concrete overcasts were started in the Red Ash vein, two in No. 24 slope district and one in No. 23 slope district. Completed reinforced concrete pump rooms in the Hillman and Baltimore veins and installed two 1,500-gallon pumps. A 15-degree rock plane 45 feet long was driven through a fault from the Cooper to Cooper vein. Second opening on 30 degrees was also driven. A tunnel from the Cooper to the Bennett vein was started. A small pump was placed at the foot of No. 24 slope, Red Ash vein. Removed two 16 by 20-inch engines on No. 20 slope, Baltimore vein.

Outside: An extension to the River pump house was made and a larger pump installed. The loading of refuse into cars was discontinued. Installed two Williams crushers in order that the refuse could be silted into the mines. A 14-inch bore hole was drilled from the surface to the Baltimore vein for that purpose. A concrete ditch was constructed from the boiler house to the bore hole in order to flush ashes into the mines. An outside hospital was also constructed. A ditch for the installation of steam lines from the Dorrance Colliery to the new office building was constructed and the lines laid.

Prospect Colliery.—The rock work for the installation of the large pump in the Midvale-Hillman vein was completed and concrete side walls were started. A 15-degree rock plane was driven from the Upper Baltimore through a fault to the Five Foot vein. The work of fireproofing the barns in the Baltimore and Red Ash veins was completed. Roof supports were placed in the Midvale slope to support the engine house. A concrete overcast was built in the Red Ash vein. An electric hoist was placed on No. 26 slope, the new slope being driven in the Skidmore vein.

Outside: The Midvale-Hillman slope and No. 10 slope engine houses were made fireproof. A concrete retaining wall was built along the plank road east of Midvale shop. Two 8-inch bore holes were drilled from the surface to the Hillman vein for the purpose of silting boiler ashes. A concrete ditch was constructed to carry ashes from the boiler house to the bore hole. An addition to the small pump house was made to serve as an outside hospital. A mess house which was provided with all conveniences for the employes was completed.

Franklin Colliery.—Concrete batteries were built in the Baltimore vein under the new breaker to allow openings to be filled with silt. A new concrete fire boss station was started in the top Red Ash vein at the head of No. 9 slope. An 18-degree rock plane 150 feet long was driven from the bottom to the top Red Ash vein to mine a basin of virgin coal.

Outside: A new steel breaker to replace the old wooden structure was constructed. A new fireproof office and shop of tile was started. Concrete reservoir was constructed and a 12 inch C. I. pipe line was laid to conduct the water from Worthington pump bore hole to the reservoir. Installed new heads at the Rock and Long slopes. A new fuel conveyor line from the breaker to the boiler house was constructed. One 16 inch and two 8 inch holes were drilled from the surface to the Red Ash vein, a distance of 450 feet, to conduct the silt from the breaker to the mines. A 6 inch hole was drilled from the surface to the old Baltimore workings for drainage of the condemned coal conveyor pit. The Long slope engine house was reconstructed of fireproof material. A 16 by 20 inch engine was placed on the Brown slope to facilitate haulage.

Warrior Run Colliery.—Drove a tunnel from the Hillman to the Five Foot vein, a distance of 505 feet, for which a second opening 230 feet long from the Five Foot to the Hillman vein, was started. A concrete overcast for the return air from the Mills vein was built in the Hillman vein. No. 8 tunnel from the C to the D vein was completed. The mouth of the B vein slope was concreted.

Outside: A concrete fan house over the E vein shaft was completed. The outside plane engine house was made fireproof. A new hospital 10 by 14 feet was also constructed of fireproof material. Part of the wooden flume to conduct water across the property was reconstructed.

The two shafts being sunk by the Delaware, Lackawanna and Western Railroad Company, at Parsons are progressing very successfully, and Pettebone No. 3 has reached a depth of 515 feet and No. 4 shaft 393 feet.

The trestle work connecting these shafts with the Pettebone breaker, on the west side of the Susquehanna river, at Dorranceton in the 8th District, is about completed.

It is the intention to stop sinking operations in the main shaft when the Cooper vein is reached. The work of development will then be proceeded with in this seam and the upper seams, and the shaft sunk later from the Bennett vein to the Red Ash vein by a bore hole connection from the Cooper to the Bennett vein.

DELAWARE AND HUDSON COMPANY

Baltimore No. 5 Colliery.—Placed 68 I beams 15 by 24 inches at head of No. 1 slope in the Red Ash vein for roof support.

Installed a triplex 12 by 12 inch single-acting electric pump in the Red Ash vein.

Conyngham.—Completed 6 by 8 inch bore hole 607 feet, from surface to Hillman 8 inch and Hillman to Baltimore 6 inch, to slush culm from Baltimore No. 5 breaker to the Conyngham workings.

Completed 8-inch cast iron pipe slush line 1,375 feet long, Baltimore No. 5 breaker to bore hole; 6-inch bore hole 274 feet long for drainage from Hillman to Baltimore vein, and concrete pump room 15 by 22 feet at foot of Conyngham shaft in Red Ash vein.

Installed electric triplex 12 by 12 inch single acting electric pump in Red Ash vein.

Installed 7 by 20 foot Jeffrey fan in Conyngham main shaft.

Baltimore No. 2.—Completed concrete pump room 20 by 24 feet at foot of Baltimore No. 2 shaft in Red Ash vein.

Installed electric triplex 12 by 12 inch single acting pump in Red Ash vein.

Completed 540 feet partition wall in shaft, 12 inches by 14 feet, from Red Ash to surface cribbing.

WILKES-BARRE ANTHRACITE COAL COMPANY

Hillman Vein Colliery.—Completed tunnel from Kidney to Abbott, and started second opening. Slope driven in Kidney to open coal in upper lifts.

In the Stanton vein a slant slope was driven across pitch from 3-W to 4-W and now is being driven down to Basin.

3-½ West gangway driven to connect Baltimore tunnel to Stanton slope.

In the Baltimore vein a second opening from Baltimore to Stanton vein was completed. Drove straight slope 700 feet to north line of the property.

Commenced driving slant slope east from Straight slope. Installed 100 H. P. 4 stage centrifugal pump in pump lift and 35 H. P. triplex pump at No. 4 west.

Outside: Installed 3 batteries of boilers, 400 H. P. each, on old foundations of boiler house and emergency pump in boiler house.

Sank two bore holes from surface to Hillman vein about 60 feet each, to be used for slushing to bottom of shaft.

Erected the following fire-proof buildings: Scale house, hospital, mine foreman's office, supply house, engineering office, wash house, boiler—fan house and compressor house.

Installed 3 jigs in breaker and slush pump and concrete well for breaker water.

PITTSTON COAL MINING COMPANY

Hadleigh Colliery.—Inside:—Sank rock slope from Cupola to Twin vein 125 feet, 16 degree pitch. Drove two tunnels each 45 feet from Cupola to Twin vein.

Installed 7½ by 5 by 6 inch pump in Cupola vein, a pair of 12 by 14 inch engines on No. 5 slope and 1,100 feet of 3 inch steam pipe in Cupola vein. Sank slope from surface to Ross vein a distance of 200 feet in coal.

Built hospital at foot of shaft in Ross vein and equipped it with First Aid to the Injured outfit and organized First Aid Corps inside and outside. Hospital is supplied with steam heat and hot and cold running water.

Sank 4-inch bore hole from surface to Cupola vein, distance 131 feet.

Outside.—Erected a new 600 to 800 ton breaker, a shaft engine house 20 by 40 feet and a concrete fan house. Installed, 16½ foot fan. Built a 12 by 12 foot yellow pine tower for shaft.

Installed 3 Simplex jigs on counter product coal and 1 pair of 16 by 30 Vulcan engines on Ross slope and erected building for them 16 by 28 feet.

Erected powder house 8 by 8 by 10 feet.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held April 22 and 23 in the Y. M. C. A. Building, Wilkes-Barre.

The Board of Examiners was composed of Thomas J. Williams, Mine Inspector, Wilkes-Barre; Samuel R. Morgan, Superintendent, Wilkes-Barre; Patrick McGrane, Miner, Sugar Notch; William H. Chappell, Miner, Wilkes-Barre.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

John David, Sheldon Jones, Plains; Albert Harris, Parsons; Henry Rees Owens, Wilkes-Barre.

ASSISTANT MINE FOREMEN

Frank Bryan, Alfred Benning, Emanuel Bennett, Thomas R. Evans, James Hendy, David W. Jones, David T. Jones, Albert J. Thomas, Thomas A. Welsh, Thomas D. Williams, William Williams, Charles Bryan, Evan Cann, Gwilliam Hughes, Thomas Jones, Samuel Richard Morgan, Wilkes-Barre; Thomas Morris Thomas, Benjamin F. Lloyd, Benjamin R. Humphrey, Peely; Thomas E. Cordy, Old Forge; Michael J. Gorham, Ashley; David G. Harris, Guy E. Conner, Plains; John Mulholland, Silas Morris, Sugar Notch; Leopold Suwalski, Nanticoke; Raymond Bowman, Duryea.

EIGHTH DISTRICT

LUZERNE AND LACKAWANNA COUNTIES

Pittston, Pa., February 21, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith the annual report of the Eighth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

S. J. JENNINGS, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	15
Number of mines,	31
Number of mines in operation,	27
Number of tons of coal shipped to market,	3,480,093
Number of tons used at mines for steam and heat,	446,901
Number of tons sold to local trade and used by employes,	85,658
Number of tons produced,	4,012,652
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	56,907
Number of persons employed inside of mines,	6,384
Number of persons employed outside,	2,071
Number of fatal accidents inside of mines,	46
Number of fatal accidents outside,	1
Number of non-fatal accidents inside of mines,	41
Number of non-fatal accidents outside,	7
Number of tons of coal produced per fatal accident inside,	87,231
Number of tons produced per fatal accident outside,	4,012,652
Number of tons produced per fatal accident inside and outside,	85,375
Number of persons employed per fatal accident inside,	139
Number of persons employed per fatal accident outside,	2,071
Number of persons employed per fatal accident inside and outside,	180
Number of persons employed per non-fatal accident inside,	156
Number of persons employed per non-fatal accident outside,	296
Number of persons employed per non-fatal accident inside and outside,	176
Number of wives made widows,	26
Number of children made orphans,	82
Number of steam locomotives used inside of mines,	3
Number of steam locomotives used outside,	11
Number of compressed air locomotives used inside,	6
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	31
Number of electric motors used outside,	....
Number of fans in use,	34
Number of furnaces in use,	....
Number of gaseous mines in operation,	17
Number of non-gaseous mines in operation,	10
Number of new mines opened,	....
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Lehigh Valley Coal Company,	1,746,389
Kingston Coal Company,	670,056
Forty Fort Coal Company,	554,207
Mt. Lookout Coal Company,	375,823
East Boston Coal Company,	186,289
Plymouth Coal Company,	185,918
Raub Coal Company,	129,002
Delaware, Lackawanna and Western Railroad Company,	124,147
Rissinger Brothers and Company, Incorporated,	40,821
Total,	4,012,652

Production by Counties

Luzerne,	3,912,966
Lackawanna,	99,686
Total,	4,012,652

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh Valley Coal Co.,	14	1	15	14	4	18	124,742	124,742	2,369	737	3,106	169	737	169	184
Kingston Coal Co.,	7	......	7	......	1	1	95,722	....	981	409	1,390	140	....	....	409
Forty Fort Coal Co.,	10	......	10	7	......	7	55,421	79,172	1,096	296	1,392	110	....	157	....
Mt. Lookout Coal Co.,	5	......	5	3	......	3	75,165	125,274	621	146	767	124	....	207	....
East Boston Coal Co.,	3	......	3	6	......	6	62,096	31,048	320	153	473	106	....	53	....
Plymouth Coal Co.,	3	......	3	7	......	7	61,972	26,560	370	121	491	123	....	53	....
Raub Coal Co.,	3	......	3	3	1	4	43,000	43,000	281	135	416	93	....	93	135
Delaware, Lackawanna and Western Railroad Co.,	......	......	......	......	1	1	....	....	273	39	312	....	....	....	39
Rissinger Brothers and Co., Inc.,	1	......	1	1	......	1	40,821	40,821	73	35	108	73	....	73	....
Totals and averages for district,	46	1	47	41	7	48	87,231	97,869	6,384	2,071	8,455	139	2,071	156	296

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of slate, ...	....	1	....	....	....	1	....	....	....	1	....	....	3	6.52
Falls of roof, ...	4	....	2	1	3	....	....	1	1	2	1	3	18	39.13
Mine cars, ...	1	....	3	1	....	2	....	2	1	....	1	1	12	26.09
Explosions of powder and dynamite, ...	....	1	....	....	....	....	....	....	....	....	....	....	1	2.18
Blasts, premature and otherwise, ...	2	....	....	1	2	....	....	2	1	....	1	....	9	19.57
Falling into shafts, ..	....	....	....	....	....	1	....	....	....	....	....	....	1	2.17
Struck by timber, ...	....	....	....	....	....	....	....	....	1	....	....	....	1	2.17
Mules, ...	....	....	....	....	....	....	1	....	....	....	....	....	1	2.17
Totals, ...	7	2	5	3	5	4	1	5	4	3	3	4	46	100.00
Causes of Accidents Outside														
By cage, ...	....	....	....	....	....	....	....	1	....	....	....	....	1	100.00
Totals, ...	....	....	....	....	....	....	....	1	....	....	....	....	1	100.00
Grand totals inside and outside, ...	7	2	5	3	5	4	1	6	4	3	3	4	47	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	**Totals**	Percentages
Causes of Accidents Inside														
Falls of coal, ...	1	1	....	....	....	....	....	....	....	....	....	....	2	4.88
Falls of slate, ...	....	1	1	1	....	....	....	....	1	....	....	....	4	9.76
Falls of roof, ...	1	....	....	1	3	....	1	1	1	2	....	....	10	24.39
Mine cars, ...	2	....	1	1	2	4	1	....	....	3	....	1	15	36.58
Explosions of gas, ...	....	....	....	....	....	....	....	....	....	....	....	1	1	2.44
Explosions of powder and dynamite, ...	....	....	....	1	....	....	....	....	....	....	....	....	1	2.44
Blasts, premature and otherwise, ...	....	1	....	....	....	....	....	....	....	....	1	1	3	7.31
Struck by piece of coal,	....	1	....	....	....	....	....	....	....	....	....	....	1	2.44
Struck by timber, ...	....	....	....	....	....	....	....	....	....	....	1	....	1	2.44
Door on gangway, ...	....	....	....	....	....	....	....	....	....	....	....	1	1	2.44
By cage, ...	....	1	....	....	....	....	....	....	....	....	....	....	1	2.44
Machinery, ...	1	....	....	....	....	....	....	....	....	....	....	....	1	2.44
Totals, ...	5	5	2	4	5	4	2	1	2	5	2	4	41	100.00
Causes of Accidents Outside														
Cars, ...	....	1	....	1	....	....	....	....	1	....	....	....	3	42.86
Machinery, ...	....	1	....	....	....	....	....	....	....	....	....	....	1	14.29
By falling, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	14.28
Struck by timber, ...	2	....	....	....	....	....	....	....	....	....	....	....	2	28.57
Totals, ...	2	2	....	1	....	....	....	....	1	1	....	....	7	100.00
Grand totals inside and outside, ...	7	7	2	5	5	4	2	1	3	6	2	4	48	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	3	2	2	1	4	1	....	4	2	3	3	1	26
Miners' laborers,	4	....	1	2	1	....	....	....	1	....	....	1	10
Drivers and runners,	....	....	2	....	....	1	1	....	1	....	....	....	5
Doorboys and helpers,	....	....	....	....	....	1	....	....	....	....	....	....	1
Pumpmen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Driver bosses,	....	....	....	....	....	1	....	1	....	....	....	....	2
Switchmen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	7	2	5	3	5	4	1	5	4	3	3	4	46
Outside													
Spraggers,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	....	....	....	....	....	....	....	1	....	....	....	....	1
Grand totals inside and outside,	7	2	5	3	5	4	1	6	4	3	3	4	47

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Assistant mine foremen,	....	...	....	....	....	....	....	....	....	....	....	1	1
Miners,	1	3	1	2	2	....	1	1	2	1	....	2	16
Miners' laborers,	1	1	....	2	2	1	1	....	....	....	2	....	10
Drivers and runners,	1	....	1	....	1	2	....	....	....	3	....	1	9
Driver bosses,	....	....	....	....	....	....	....	....	....	1	....	....	1
Pumpmen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Footmen,	....	1	....	....	....	1	....	....	....	....	....	....	2
Timbermen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals,	5	5	2	4	5	4	2	1	2	5	2	4	41
Outside													
Loaders,	....	1	....	1	....	....	....	....	....	....	....	....	2
Engineers and firemen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Headmen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Jig tenders,	....	1	....	....	....	....	....	....	....	....	....	....	1
Inspectors,	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals,	2	2	....	1	....	....	....	....	1	1	....	....	7
Grand totals inside and outside,	7	7	2	5	5	4	2	1	3	6	2	4	48

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	1	....	....	....	....	1	....	1	....	1	5
Irish,	....	....	....	....	1	1	....	....	....	....	1	....	3
German,	1	....	....	....	....	....	....	....	....	....	....	....	1
Polish,	2	....	1	....	2	1	....	2	2	....	1	2	13
Italian,	....	....	1	2	1	1	....	1	....	1	....	....	7
Slavonian,	1	1	1	....	....	1	....	....	1	1	....	1	7
Lithuanian,	2	1	....	....	1	....	1	1	....	....	1	....	7
Austrian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Russian,	....	....	....	....	....	....	....	1	1	....	....	....	2
Horwat,	....	....	....	1	....	....	....	....	....	....	....	....	1
Totals,	7	2	5	3	5	4	1	6	4	3	3	4	47

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	3	1	2	....	....	....	....	....	....	3	1	1	11
German,	....	....	....	....	....	1	....	....	....	....	....	....	1
Polish,	1	4	....	2	2	3	1	....	1	....	....	2	16
Italian,	....	....	....	....	1	....	....	....	1	....	....	...	2
Slavonian,	2	....	....	....	2	....	....	....	....	....	1	1	6
Lithuanian,	....	1	....	1	....	....	1	1	1	2	....	....	7
Russian,	....	1	....	2	....	....	....	....	....	1	....	....	4
Horwat,	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals,	7	7	2	5	5	4	2	1	3	6	2	4	48

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lehigh Valley Coal Co.															
Exeter Colliery:															
Red Ash, ...	Shaft, ..	Gaseous,	2 Fans,	20	6.8	5.10	76	1.	Guibal, ...	Steam, ...	4	95,706	70,630	115,088	140
				20	6.8	5.10	76	1.			5	91,454	50,639	107,101	160
Pittston, ...			Fan, ...	20	5.11	5.11	60	1.2			4	70,435	57,477	74,832	180
*Knight, ...			Fan, ...	22	6.11	6.7	60	1.5			5	133,208	117,014	144,140	142
Maltby Colliery:															
No. 2, ...	Shaft, ...	Gaseous, ..	2 Fans,	25	8.11	6.10	72	3.	Guibal, ...	Steam, ...	10	155,850	124,685	187,160	481
				20	5.11	5.8	82	2.5							
Four Foot, ...	Slope, ... Tunnel, ...	Non-gas.	Fan, ...	12	4.	4.	82	.5			2	60,465	45,860	65,650	15
Seneca Colliery:															
Twin, ...	Shaft, ..	Gaseous, ..	Fan, ...	24	8.	6.	74	2.2	Guibal, ...	Steam, ...	5	152,000	91,000	166,000	225
*Coxey, ...				20	6.	6.	80	1.2			4	93,000	74,000	105,000	158
Pittston, ...				20	6.	6.	50	.8			1	40,000	18,000	41,000	24
William A. Colliery:															
William A., ...	Shaft, ...	Non-gas.	Fan, ...	18	5.	5.	75	.7	Guibal, ...	Steam, ...	4	62,000	60,500	63,000	79
*Lawrence, ...	Shaft, ...			18	5.	5.	75	.8			6	59,500	57,000	59,800	100
*Babylon, ...	Shaft, ...			20	5.	5.	80	1.			4	89,700	87,500	93,000	98
No. 10, ...	Tunnel, ...			8.6	3.9	2.	200	1.2			3	53,300	54,000	54,000	135
Westmoreland Colliery:															
No. 1, ...	Tunnel, ...	Gaseous, ..	Fan, ...	20	6.	6.	79	2.	Guibal, ...	Steam, ...	5	113,000	95,000	117,000	244
Stevens Colliery:															
*No. 1, ...	Shaft, ..	Gaseous, ..	Fan, ...	20	6.	7.	70	1.	Guibal, ...	Steam, ...	3	69,600	48,800	70,600	49
No. 2, ...				20	5.	6.	65	1.			4	70,300	57,300	71,600	101

*Idle.

Kingston Coal Co.															
Kingston No. 4 Colliery:															
No. 1, ...	Shaft, ...	Gaseous, ..	2 Fans,	25	8.	8.	70	2.2	Guibal, ...	Steam, ...	9	250,000	230,000	260,000	517
				25	8.	8.	74	2.2							
No. 4, ...	Shaft, ...	Gaseous, ..	2 Fans,	25	8.	8.	78	2.			8	160,000	130,000	190,000	464
				25	8.	8.	80	2.5							
Forty Fort Coal Co.															
Harry E. Colliery:															
No. 1.	Shaft, ...	Gaseous, ..	2 Fans,	25	8.	6.10	75	2.	Guibal, ...	Steam, ...	10	253,200	237,800	251,300	503
				15	4.6	4.6	75	1.							
Baby, ...	Tunnel, ...	Gaseous, ..	Fan, ...	13.4	3.8	3.2	85	1.			2	20,500	18,000	22,300	45
Forty Fort Colliery:															
No. 1.	Shaft, ...	Gaseous, ..	2 Fans,	20	7.	6.	90	1.8	Guibal, ...	Steam, ...	10	176,190	157,930	202,480	548
				20	7.	6.8	96	1.2							
Mt. Lookout Coal Co.															
Mt. Lookout Colliery:															
No. 1.	Shaft, ...	Gaseous, ..	2 Fans,	20	7.	6.10	82	1.5	Guibal, ...	Steam, ...	14	168,370	161,015	171,500	621
				20	6.3	5.4	82	1.6							
East Boston Coal Co.															
East Boston Colliery:															
No. 1, ...	Shaft, ...	Gaseous, ..	Fan, ...	25	7.	7.	60	1.4	Guibal, ...	Steam, ...	10	160,500	130,400	162,000	320
Plymouth Coal Co.															
Black Diamond Colliery:															
No. 1, ...	Shaft, ...	Gaseous, ..	Fan, ...	20	6.	6.6	90	1.9	Vulcan, ...	Steam, ...	8	125,000	75,000	130,000	370
Raub Coal Co.															
Louise Colliery:															
Mt. Thomas, ...	Tunnel, ...	Non-gas., .	Fan, ...	13	5.	5.	120	.8	Guibal, ...	Steam, ...	2	15,600	15,200	16,300	82
Nine Foot, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	....	14,300	13,500	14,700	15
Klondike, ...	Tunnel, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	....	30,100	28,300	31,200	55
Ross, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	....	30,900	28,900	31,600	82
Sand, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	....	29,300	27,800	30,500	47
Delaware, Lackawanna and Western Railroad Co.															
Pettebone Colliery:															
No. 1, ...	Shaft, ...	Gaseous, ..	Fan, ...	22	6.2	6.	120	1.7	Dickson, ..	Steam, ...	10	181,900	158,300	207,450	273
No. 2, ...	Shaft, ...	Gaseous, ..	Fan, ...	35	10.1	9.1	52	2.3							
Rissinger Brothers and Co. Inc.															
Troy Colliery:															
No. 1, ...	Tunnel, ...	Non-gas., .	Fan, ...	7.6	3.6	3.3	220	.4	Buffalo, ...	Electricity,	2	13,300	14,000	14,500	70

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh Valley Coal Co.						
Exeter,	Luzerne,	Thomas P. Thomas,	Wilkes-Barre,	W. D. Owens,	Pittston,	Lehigh Valley
Maltby,	Luzerne,					
Seneca,	Luzerne,					
William A,	Lackawanna, Luzerne,					
Westmoreland,	Luzerne,					
Stevens,	Luzerne,					
Kingston Coal Co.						
Kingston No. 4,	Luzerne,	F. E. Zerbey ,	Wilkes-Barre.	Thomas H. Williams,	Kingston,	D. L. and W., D. and H. and L. V.
Kingston No. 4 Washery,						
Forty Fort Coal Co.						
Harry E.,	Luzerne,	Frank H. Hemelright,	Scranton,	James J. McCarty,	Luzerne.	Lehigh Valley
Forty Fort,						
Mt. Lookout Coal Co.						
Mt. Lookout,	Luzerne,	Frank H. Hemelright,	Scranton,	Seward Button,	Wyoming,	D. L. and W. and L. V.
East Boston Coal Co.						
East Boston,	Luzerne,	W. T. Payne,	Kingston,	W. T. Payne,	Kingston,	D. L. and W. and L. V.
East Boston Washery,						
Plymouth Coal Co.						
Black Diamond,	Luzerne,	Gilbert S. Jones,	Dorranceton,	Gilbert S. Jones,	Dorranceton,	D. L. and W. and L. V.
Raub Coal Co.						
Louise,	Luzerne,	Gwillym Edwards,	Luzerne,	Gwillym Edwards,	Luzerne,	D. L. and W. and L. V.
Delaware, Lackawanna and Western Railroad Co.						
Pettebone,	Luzerne,	C. E. Tobey,	Scranton,	H. G. Davis,	Kingston,	D. L. and W.
Rissinger Brothers and Co., Inc.						
Troy,	Luzerne,	H. E. Rissinger,	Pittston.	....	....	Lehigh Valley

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh Valley Coal Co.													
Exeter,	Luzerne,	392,754	56,482	24,061	473,297	250	786	3	4	170,075	261,267	3,450	130
Maltby,	Luzerne,	302,812	45,537	5,854	354,203	231	660	2	6	224,975	166,150	....	96
Seneca,	Luzerne,	257,215	37,304	4,995	299,514	231	541	6	2	383,125	11,275	....	90
William A.,	Lackawanna, Luzerne,	222,484	32,816	7,721	263,021	218	598	1	3	239,000	9,500	....	83
Westmoreland,	Luzerne,	205,117	16,172	5,587	226,876	243	325	2	3	72,150	161,800	....	36
Stevens,	Luzerne,	100,176	29,302	....	129,478	*	196	1	......	14,725	47,200	....	35
Totals,		1,480,558	217,613	48,218	1,746,389	......	3,106	15	18	1,104,050	657,192	3,450	470
Kingston Coal Co.													
Kingston No. 4,	Luzerne,	579,675	55,800	7,811	643,286	272	1,352	7	1	547,125	8,800	35,587	134
Kingston No. 4 Washery,	Luzerne,	25,435	900	435	26,770	53	38	......	......	....	....	....	......
Totals,		605,110	56,700	8,246	670,056	......	1,390	7	1	547,125	8,800	35,587	134
Forty Fort Coal Co.													
Harry E.,	Luzerne,	258,261	31,365	3,114	292,740	231	697	4	2	200,775	87,665	....	98
Forty Fort,	Luzerne,	243,431	14,800	3,236	261,467	214	695	6	5	171,625	111,075	....	99
Totals,		501,692	46,165	6,350	554,207	......	1,392	10	7	372,400	198,740	....	197
Mt. Lookout Coal Co.													
Mt. Lookout,	Luzerne,	328,503	43,237	4,083	375,823	284	767	5	3	225,800	167,062	....	36

*Coal prepared at William A. Breaker.

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
East Boston Coal Co.													
East Boston,	Luzerne,	137,185	20,561	1,848	159,594	195	450	3	6	119,375	29,000	....	87
East Boston Washery,	Luzerne,	16,686	10,000	9	26,695	252	23	......	......	....	....	....	......
Totals,	....	153,871	30,561	1,857	186,289	......	473	3	6	119,375	29,000	....	87
Plymouth Coal Co.													
Black Diamond,	Luzerne,	148,112	33,200	4,606	185,918	259	491	3	7	3,650	34,500	....	56
Raub Coal Co.													
Louise,	Luzerne,	102,407	16,425	10,170	129,002	232	416	3	4	60,275	49,800	....	37
Delaware, Lackawanna and Western Railroad Co.													
Pettebone,	Luzerne,	124,143	....	4	124,147	282	312	......	1	95,525	2,957	35,526	40
Rissinger Brothers and Co., Inc.													
Troy,	Luzerne,	35,697	3,000	2,124	40,821	289	108	1	1	11,450	35,500	....	9
Grand totals,	....	3,480,093	446,901	85,658	4,012,652	......	8,455	47	48	2,539,650	1,183,551	74,563	1,066

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Lehigh Valley Coal Co., ...	Luzerne, ... Lackawanna,	......	......	38	11,570	11,570	7	6	16	127	12,314	28	31,258	18,844	8	2
Kingston Coal Co., ...	Luzerne, ...	......	......	15	4,200	4,200	1	......	4	38	4,800	8	8,600	5,100	4	1
Forty Fort Coal Co., ...		......	......	12	3,150	3,150	2	......	......	41	3,590	7	6,100	3,800	......	......
Mt. Lookout Coal Co., ...		......	......	10	2,600	2,600	1	......	9	29	2,100	3	6,750	2,900	3	3
East Boston Coal Co., ...		......	......	11	2,202	2,202	.....	......	......	27	1,258	2	4,500	2,000	2	2
Plymouth Coal Co., ...		......	......	15	2,900	2,900	.....	......	1	44	3,000	2	2,800	2,000	2	3
Raub Coal Co., ...		......	......	7	1,200	1,200	2	......	......	29	1,670	3	1,000	600	......	......
Delaware, Lackawanna and Western Railroad Co., ...		......	......	10	1,350	1,350	1	......	1	28	2,801	2	160	160	1	......
Rissinger Brothers and Co., Inc., ...		......	......	3	200	200	.....	......	......	5	125	2	60	20	......	......
Totals, ...	....	......	......	121	29,372	29,372	14	6	31	368	31,658	57	61,228	35,424	20	11

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh Valley Coal Co.,	Luzerne, ... Lackawanna, .	14	58	....	1,023	482	321	25	48	398	....	2,369	2	5	84	124	62	9	17	434	737	3,106
Kingston Coal Co., ...	Luzerne, ...	2	9	12	362	262	159	18	14	26	117	981	1	2	46	45	....	54	7	254	409	1,390
Forty Fort Coal Co., ...		2	2	12	430	280	156	33	18	41	122	1,096	1	2	27	33	37	54	5	137	296	1,392
Mt. Lookout Coal Co., ..		2	....	4	240	219	24	11	10	24	87	621	1	1	13	24	4	23	3	77	146	767
East Boston Coal Co., ..		1	3	5	85	59	68	6	8	40	45	320	1	2	12	20	31	10	5	72	153	473
Plymouth Coal Co., ...		1	2	3	105	85	48	8	4	81	33	370	....	1	9	20	20	8	3	60	121	491
Raub Coal Co., ...		1	3	1	123	70	36	5	9	7	26	281	....	1	13	18	30	6	3	64	135	416
Delaware, Lackawanna and Western Railroad Co., ...		1	....	3	85	80	24	5	2	2	71	273	....	1	4	11	....	....	1	22	39	312
Rissinger Brothers and Co., Inc., ...		1	....	....	22	30	11	1	2	2	4	73	....	1	4	3	10	4	1	12	35	108
Total, ...	....	25	77	40	2,475	1,567	847	112	115	621	505	6,384	6	16	212	298	194	168	45	1,132	2,071	8,455

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh Valley Coal Co.,	Luzerne, Lackawanna,	23	21	14	22	21	22	18	17	19	19	20	19	235
Kingston Coal Co.,	Luzerne,	26	21	12	25	23	25	21	24	24	26	21	24	272
Forty Fort Coal Co.,		21	20	14	21	21	19	18	17	17	14	20	18	220
Mt. Lookout Coal Co.,		24	22	24	24	24	24	25	25	24	24	23	21	284
East Boston Coal Co.,		20	19	16	16	12	16	17	16	15	17	15	16	195
Plymouth Coal Co.,		23	22	22	22	21	21	21	20	21	23	21	22	259
Raub Coal Co.,		22	19	19	17	17	18	20	20	20	21	18	21	232
Delaware, Lackawanna and Western Railroad Co.,		25	23	20	25	25	24	25	23	24	23	22	23	282
Rissinger Brothers and Co., Inc.,		26	22	23	25	24	26	25	25	23	24	23	23	289

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 8	John Zarka,	Lithuanian,	Miner,	27	S.	....	....	Forty Fort,	Luzerne,	Instantly killed by fall of rock at face of chamber.
	Charles Makar,	American,	Miner,	38	S.	....	....	Stevens,		Instantly killed by fall of rock at face of chamber.
16	Anthony Zincavage,	Lithuanian,	Laborer,	35	S.	....	....	Seneca,		Instantly killed by fall of rock at face of chamber.
27	Alex Stermus,	German,	Laborer,	19	S.	....	....	Forty Fort,		Instantly killed by fall of rock at face of cross-heading.
28	Stanley Adamchick,	Polish,	Laborer,	21	S.	....	....	Kingston No. 4,		Fatally injured by mine cars on gangway.
31	Martin Gostinsky,	Polish,	Miner,	25	S.	....	....	Harry E.,		Fatally injured by blast while tamping hole at face of airway.
	John Alamick,	Slavonian,	Laborer,	27	M.	1	2	Harry E.,		Fatally injured by blast while tamping hole at face of airway.
Feb. 6	Joseph Zerkavitch,	Lithuanian,	Miner,	27	S.	....	....	East Boston,		Instantly killed while handling dynamite on gangway.
28	John Velonobitz,	Slavonian,	Miner,	54	M.	1	6	Maltby,		Instantly killed by fall of slate at face of chamber.
March 1	Mike Sysko,	Polish,	Miner,	35	M.	1	2	Exeter,		Instantly killed by fall of rock at face of chamber.
3	Anthony Molly,	Austrian,	Laborer,	23	S.	....	....	Louise,		Fatally injured by cars on slope.
5	John Tressa,	Slavonian,	Runner,	28	M.	1	2	Maltby,		Instantly killed by cars on slope.
10	Besrior Grigiri,	Italian,	Miner,	29	S.	....	....	Mt. Lookout,		Instantly killed by fall of rock at face of chamber.
13	Ralph Wolfe,	American,	Driver,	18	S.	....	....	Kingston No. 4,		Instantly killed by cars on gangway.
April 8	Clercia Shyosi,	Italian,	Miner,	33	M.	1	2	Black Diamond,		Fatally injured by premature blast. He is supposed to have shortened squib.
14	Frank Ritzo,	Italian,	Laborer,	35	S.	....	...	Seneca,		Fatally injured by cars on gangway at branch of chamber.
17	George Vulchick,	Horwat,	Laborer,	53	M.	1	3	Black Diamond,		Instantly killed by fall of rock at face of pillar.
May 15	Cornelius Conahan,	Irish,	Miner,	56	M.	1	3	East Boston,		Instantly killed by fall of rock at face of chamber.
16	Adam Pistolozzi,	Italian,	Miner,	44	M.	1	2	Forty Fort,		Fatally injured while tamping hole at face of chamber.
19	William Salus,	Lithuanian,	Miner,	32	M.	1	5	Exeter,		Instantly killed by fall of rock on gangway while making repairs.
20	Paul Yaruga,	Polish,	Laborer,	19	S	....	....	East Boston,		Fatally injured by fall of rock at face of chamber.
29	Stanley Kizyuifchi,	Polish,	Miner,	31	S.	....	....	Seneca,		Instantly killed at face of chamber while lighting a squib. He had shortened his squib before using it.

June	4	Paul Phillips, ...	Slavonian,..	Driver, ...	20	S.	....	....	Forty Fort, ...	Luzerne, ...	Instantly killed by cars on gangway. He was riding on front end of car and fell under.
	11	Nick Parelle, ...	Italian, ...	Miner, ...	29	M.	1	1	Mt. Lookout, ...		Instantly killed by fall of slate at face of chamber.
	21	Patrick Farrington, ..	Irish, ...	Driver boss,.	48	W.	....	8	Forty Fort, ...		Fatally injured by cars on slope.
	24	John Clutchnick, ...	Polish,......	Doorboy, ...	17	S.	....	....	Seneca, ...		Instantly killed by falling off carriage in shaft.
July	23	John Velitis, ...	Lithuanian,	Driver, ...	18	S.	....	....	Kingston No. 4,		Fatally injured by being kicked by mule he was driving along gangway road.
Aug.	11	Anthony Caryonis, ...	Lithuanian,	Miner, ...	43	M.	1	3	Harry E., ...		Fatally injured by being caught between mine car and door in chamber while assisting the driver.
	12	John Robbins, ...	American, ..	Driver boss,.	40	M.	1	8	Louise, ...		Fatally injured while riding upon loaded trip of cars on slope.
	14	Mike Ross, ...	Italian, ...	Spragger, ...	28	M.	1	8	Exeter, ...		Fatally injured by cage at breaker hoist descending upon him. Outside.
	20	Thomas Jorjo, ...	Russian, ...	Miner, ...	54	M.	1	....	Kingston No. 4,		Fatally injured by blast near face of pillar.
	21	Stanley Semereskie, ..	Polish,......	Miner, ...	26	S.	....	....	Westmoreland, ..		Instantly killed by fall of rock at face of chamber.
	25	John Gahuski, ...	Polish,......	Miner, ...	28	M.	1	....	Black Diamond,		Fatally injured by blast while cleaning away fall on main road.
Sept.	4	Joseph Dompkowski, .	Polish,......	Miner, ...	45	M.	1	3	Kingston No. 4,		Instantly killed by falling timber at face of chamber.
		Stanley Openkoski, ..	Russian, ...	Laborer, ...	22	S.	....	....	Troy, ...		Instantly killed by fall of rock at face of gangway.
	5	John Arthum, ...	Slavonian,..	Driver, ...	18	S.	....	....	Harry E., ...		Fatally injured by cars on gangway. While attempting to get on front end of loaded car he fell under.
	15	Joseph Potoski, ...	Polish,......	Miner, ...	48	M.	1	5	Kingston No. 4,		Instantly killed at face of chamber while firing hole. He had shortened the squib.
Oct.	2	George Yockup, ...	Slavonian,..	Miner, ...	53	M.	1	5	Louise, ...		Instantly killed by fall of rock near face of gangway.
	9	George Troy, ...	American, ..	Miner, ...	38	M.	1	1	Westmoreland, ..		Fatally injured by fall of slate at face of chamber.
	13	Quintilo Quarci, ...	Italian, ...	Miner, ...	35	M.	1	2	Mt. Lookout, ...		Instantly killed at face of chamber by fall of rock while replacing prop dislodged by blast.
Nov.	7	August Desmoiden, ..	Lithuanian,	Miner, ...	45	M.	1	5	Seneca, ...		Fatally injured by cars jumping the track at branch at foot of tail rope haulage.
	24	William McGuinnes, .	Irish, ...	Miner, ...	47	M.	1	6	Mt. Lookout, ...		Fatally injured at face of chamber while charging a hole in coal.
	25	Anthony Mehalski, ...	Polish,......	Miner, ...	37	M.	1	8	Seneca, ...		Instantly killed by fall of rock at face of chamber.
Dec.	6	Andrew Onavitch, ...	Slavonian,..	Miner, ...	45	M.	1	7	Kingston No. 4,		Instantly killed by fall of rock at the branch of chamber when car knocked prop out.
	12	Michael Walsh, ...	American, ..	Pumpman, ..	47	M.	1	3	Mt. Lookout, ...		Instantly killed by fall of rock on gangway while riding on motor.
	15	John Wisnefskie, ...	Polish,......	Switchman,	52	M.	1	8	Forty Fort, ...		Fatally injured by cars running away on slope.
	18	Zigmund Modlinsky, .	Polish,......	Laborer, ...	22	S.	....	....	William A., ...	Lackawanna	Instantly killed by fall of rock at face of chamber.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 2	Bryan Zenska,	Polish,	Laborer,	23	S.	Mt. Lookout,	Luzerne,	Compound fracture of leg by fall of rock at face of cross-cut.
	William Kemp,	American,	Pumpman,	42	M.	Louise,		Leg cut off by being caught in cross-head of pump.
3	Richard Laserick,	American,	Driver,	18	S.	Westmoreland,		Leg fractured by cars on main gangway.
20	Mike Suckup,	Slavonian,	Miner,	43	M.	Black Diamond,		Rib fractured by fall of coal at face of pillar.
24	George Watters,	American,	Inspector,	20	S.	Maltby,		Leg broken while unloading prop timber from railroad cars. Outside.
	John Golyish,	Slavonian,	Engineer,	26	M.	Maltby,		Leg broken while unloading prop timber from railroad cars. Outside.
30	Mike Sarr,	Horwat,	Timberman,	35	S.	Black Diamond,		Collar bone fractured between car and gob when car left the track.
Feb. 7	Andrew Zerkavitch,	Polish,	Miner,	44	M.	Maltby,		Leg broken by blast at face of chamber.
10	Gustave Barkoski,	Polish,	Laborer,	19	S.	East Boston,		Arm fractured while riding on carriage in shaft. His arm came in contact with the shaft bunton.
12	Albert Lynch,	Polish,	Jig tender,	15	S.	Louise,		Leg fractured by revolving shaft in breaker. Outside.
	Harrison Litts,	American,	Loader,	24	M.	Pettebone,		Skull fractured by door of railroad car. Outside.
18	Volanti Brodi,	Polish,	Miner,	28	M.	Forty Fort,		Ankle dislocated by fall of slate at face of chamber.
23	Alex Mashones,	Lithuanian,	Miner,	46	M.	Black Diamond,		Arm fractured by fall of coal at face of chamber.
24	William Zewonick,	Russian,	Footman,	24	M.	Harry E.,		Skull fractured by piece of coal falling down shaft.
March 25	Joseph Blanner,	American,	Driver,	18	S.	East Boston,		Leg broken by cars on gangway.
31	Mike Hays,	American,	Miner,	44	M.	Exeter,		Leg fractured and five ribs broken by fall of slate at face of chamber.
April 4	Stanley Sisco,	Polish,	Miner,	42	M.	Louise,		Hip dislocated by fall of slate at face of chamber.
11	John Malsko,	Russian,	Loader,	48	M.	Kingston No. 4,		Thigh fractured by falling under railroad cars at breaker. Outside.
16	Tarry Kopcherke,	Russian,	Laborer,	21	S.	Exeter,		Leg broken by cars on gangway.

April	22	Mike Koleda,	Lithuanian,	Miner,	40	M.	Exeter,	Luzerne,	Hand and face injured by explosion of powder at face of chamber.
	29	Joseph Viscofski,	Polish,	Laborer,	22	S.	Louise,		Leg broken by fall of top rock at face of chamber.
May	5	George Meador,	Slavonian,	Laborer,	35	M.	Black Diamond,		Collar bone fractured while coupling cars on gangway.
	10	Joseph Weekly,	Polish,	Laborer,	22	S.	East Boston,		Right foot cut off and left leg broken while examining roof on main gangway.
	13	Joseph Kelley,	Italian,	Miner,	27	S.	Forty Fort,		Nose broken by fall of roof at face of cross heading.
	17	Lewis Capinski,	Polish,	Driver,	17	S.	Harry E.,		Body squeezed between car and top rock.
	20	John Hascombe,	Slavonian,	Miner,	44	M.	Forty Fort,		Fracture of small bone in leg by fall of roof at face of chamber.
June	16	Edward Sesiskey,	Polish,	Driver,	19	S.	Seneca,		Hip dislocated by falling under car on gangway.
	21	Thomas Lustrack,	German,	Footman,	21	S.	Forty Fort,		Foot crushed by cars on slope.
		Alex Selenskie,	Polish,	Runner,	20	S.	Forty Fort,		Ankle dislocated by cars on slope.
	24	Mercel Kacyniski,	Polish,	Laborer,	32	M.	William A,	Lackawanna,	Leg fractured by cars on slope near face of slope gangway.
July	17	John Jessie,	Polish,	Miner,	36	M.	Westmoreland,	Luzerne,	Compound fracture of leg by cars on gangway.
	25	Adam Micklick,	Lithuanian,	Laborer,	43	M.	Exeter,		Foot crushed by fall of roof at face of chamber.
Aug.	23	Martin Zimmicki,	Lithuanian,	Miner,	50	M.	Black Diamond,		Both legs fractured by fall of roof at face of pillar.
Sept.	8	John Wardon,	Polish,	Laborer,	42	M.	William A,	Lackawanna,	Two ribs broken and body bruised by cars on rock bank. Outside.
		Philip Graci,	Italian,	Miner,	25	S.	Westmoreland,	Luzerne,	Foot fractured by fall of slate at face of chamber.
	25	Marcelli Krackofsky,	Lithuanian,	Miner,	32	M.	East Boston,		Leg broken by fall of roof at face of chamber.
Oct.	7	John Podminick,	American,	Driver,	17	S.	Black Diamond,		Head injured between car and prop when car left track.
		Adam Smith,	Lithuanian,	Miner,	38	M.	Seneca,		Pelvic bone fractured by fall of rock at face of chamber.
	9	John Bonus,	Lithuanian,	Driver,	18	S.	East Boston,		Arm fractured by cars at foot of shaft.
	17	Max Ludwig,	American,	Headman,	31	M.	Maltby,		Internally injured by falling upon carriage. Outside.
	27	Mike Mishley,	Russian,	Runner,	19	S.	East Boston,		Compound fracture of leg by cars on gangway.
	30	John Hidle,	American,	Driver boss,	38	M.	Black Diamond,		Finger cut off and head injured by fall of roof on gangway.
Nov.	19	William Tigue,	American,	Laborer,	32	M.	Mt. Lookout,		Leg broken while handling timber on gangway.
	21	Andrew Harway,	Slavonian,	Laborer,	34	M.	Mt. Lookout,		Head and face injured by coal from blast at face of chamber.
Dec.	4	Costic Zomarskie,	Polish,	Miner,	26	M.	Troy,		Fractured knee by coal from blast at face of chamber.
	13	Andrew Adamchick,	Slavonian,	Runner,	25	M.	Maltby,		Fractured collar bone by running into open door on gangway.
	24	Witol Lincosky,	Polish,	Miner,	43	M.	William A,	Lackawanna,	Thigh bone broken by being struck by car at face of gangway.
	26	Daniel McGahagan,	American,	Assistant mine foreman.	43	M.	Maltby,	Luzerne,	Face and hands burned by gas at face of chamber.

CONDITION OF COLLIERIES

LEHIGH VALLEY COAL COMPANY

Exeter, Maltby, Seneca, Westmoreland and Stevens Collieries.—Ventilation, drainage and condition as to safety good. William A.—Ventilation and drainage good. Condition as to safety fair.

KINGSTON COAL COMPANY

Kingston No. 4 Colliery.—Ventilation, drainage and condition as to safety good.

FORTY FORT COAL COMPANY

Harry E. and Forty Fort Collieries.—Ventilation, drainage and condition as to safety good.

MT. LOOKOUT COAL COMPANY

Mt. Lookout Colliery.—Ventilation, drainage and condition as to safety good.

EAST BOSTON COAL COMPANY

East Boston Colliery.—Ventilation, drainage and condition as to safety good.

PLYMOUTH COAL COMPANY

Black Diamond Colliery.—Ventilation, drainage and condition as to safety good.

RAUB COAL COMPANY

Louise Colliery.—Ventilation, drainage and condition as to safety fair.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pettebone Colliery.—Ventilation, drainage and condition as to safety good.

RISSINGER BROTHERS AND COMPANY, INCORPORATED

Troy Colliery.—Ventilation, drainage and condition as to safety good.

IMPROVEMENTS

LEHIGH VALLEY COAL COMPANY

Exeter Colliery.—Inside: A Flory engine was installed in a concrete and steel engine room on the North road in Red Ash vein. Silting was begun in the Red Ash and the fireproof mule barn was completed. Ten additional stalls were placed in the fireproof barn in the Checker vein.

Outside: Knight Shaft.—Built a concrete fan house and fan engine house and installed a 20-foot fan to replace the old one. Pittston Shaft.—Constructed a concrete floor and a corrugated iron roof to replace the old wooden ones. Added one 463 H. P. Sterling boiler to boiler plant.

Maltby Colliery.—Inside: A rock tunnel 130 feet long was driven from the Bottom Ross vein to the Red Ash vein in No. 5 slope workings. A 300 gallon triplex electric plunger pump was installed in No. 8 slope in a concrete pump room. Silting was commenced in the Six Foot vein.

Outside: Installed 9 Lehigh Valley four-foot jigs and rebuilt pockets in east side of breaker. Drilled a 12-inch bore hole to Marcy vein for silting purposes. Erected fireproof hospital, saw house and scale house. No. 2 fan shaft was concreted and No. 1 fan house made fireproof.

Seneca Colliery.—Inside: Installed one 500-gallon triplex electric pump in Clark vein, one 16½ by 26 by 36 inch Duplex Jeanesville pump in No. 5 slope, Marcy vein, and a simple pump in the same pump room was compounded. Both pumps are equipped with condensers. Drilled a 17-inch bore hole from surface to Marcy vein. 160 diamond drill test holes were put down to ascertain the rock cover over the Pittston, Marcy and Red Ash veins.

Outside: Built hospital and locomotive house of brick and tile west of breaker.

William A. Colliery.—Inside: Built a medical room of concrete at No. 10 tunnel and completed an additional air shaft from surface to Marcy vein at this opening.

Outside: Built head frame over the tender shaft, and placed new cribbing in Babylon air shaft. Foreman's office was converted into a hospital. A new office is being constructed. Built tile and concrete locomotive house at No. 10 tunnel.

Westmoreland Colliery.—Inside: Installed a 150-gallon horizontal triplex electric pump in the Pittston vein.

Outside: Built hospital of hollow tile. Made roof of boiler house fireproof. Two diamond drill holes were put down to the Pittston vein from the surface and extensive repairs were made to the breaker.

KINGSTON COAL COMPANY

Kingston No. 4 Colliery.—Outside: Installed a double intake 8 by 25 foot ventilating fan at No. 4 shaft, driven by 18 by 30 inch direct connected Corliss engine. The fan house and approach to the shaft are made of concrete and steel. The Bennett and Orchard fan engines at No. 2 bore hole were equipped with new 18 by 20 inch Corliss valve engines. Completed 12-inch concrete steel partition in the airway compartment of No. 4 shaft, from the Red Ash to the Bennett vein, and the old brattice in that section was removed. Drilled an eight-inch bore hole from surface to Bennett vein, 330 feet, for pumping purposes. No. 4 breaker engine was replaced by a cross compound Lentz engine, 19½ inch high pressure and 32½ inch low pressure cylinders and a 21 inch stroke. This engine is of the poppet valve type. No elastic or metallic packing is used; the valve stems are kept steam tight by means of the labyrinth system of water seal packing. Made two additions 22 by 68 feet to the wash house, which is now equipped with 6 shower baths, 12 wash stands, 36 concrete wash tubs and 435 lockers. Constructed a new warehouse 30 by 80 feet, with brick walls and concrete floor and roof. Completed fireproof building 30 by 68 feet for electrical department. Concrete fuel bins and a new concrete ash pit were made in the boiler room. The old warehouse has been remodeled so as to allow one room for keeping Wolfe safety lamps and electric hand lamps and the other for storing the mine rescue apparatus. This room serves as a First Aid Hospital, complete with operating table, surgical appliances, et cetera.

FORTY FORT COAL COMPANY

Harry E. Colliery.—Inside: Installed a pumping station in the Six Foot vein. Drilled two bore holes for the purpose of furnishing steam to the pumps and discharging the mine water. A 400-gallon motor driven Alberger turbine pump and a 200 gallon Aldrich triplex electrical pump were installed in the Six Foot vein. 10,000 feet of 1/0 copper wire were installed to transmit power for the operation of these pumps.

Installed a 7-ton Morgan-Gardner electric locomotive and a 6-foot Morgan-Gardner coal cutting machine; also a 200 K. W. Westinghouse induction motor generator set in a fireproof building, 15 by 15 feet, transforming 440 volt alternating current to 250 volt direct current.

Installed a pair of 10 by 12 inch Flory engines to operate No. 2 slope, Top Ross vein.

Outside: Built a 12 by 12 foot brick addition to the transformer station to accommodate additional transformers; also a 12 by 12 by 18 foot brick building at the breaker for a transformer station to furnish power for the Six Foot slope.

Forty Fort Colliery.—Inside: Drove a 6 by 8 foot second opening and manway 105 feet from the Top Ross to the Bottom Ross vein, on an angle of 45 degrees. Installed a pair of 10 by 12 foot Flory engines on the rock slope to drop coal from the Top Ross vein to the Bottom Ross vein; also a pair of 14 by 18 foot Flory engines in the Six Foot vein to operate No. 2 slope in the Eleven Foot vein by running a rope down a borehole.

Outside: Built an addition 8 feet 6 inches by 52 feet to the boiler house and added one 500 H. P. Sterling boiler to the plant. Extensive breaker repairs and improvements were also made.

MT. LOOKOUT COAL COMPANY

Mt. Lookout Colliery.—Inside: Installed a 28-A Jeffrey 6 foot coal undercutting machine and constructed a fireproof air bridge in No. 9 slope.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pettebone Colliery.—Inside: Completed sinking a rock slope from the Bennett vein to the Red Ash vein. The work of sinking a slope from the Cooper to the Red Ash vein, on the south side of No. 1 shaft, is underway. Preparations are being made for second openings by tunnels from the various seams cut by No. 12 slope from the Bennett vein to the Red Ash vein.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Pittston, April 22 and 23. The Board of Examiners was composed of S. J. Jennings, Mine Inspector, Pittston; James J. McCarty, Superintendent, Luzerne; Harry Jones, Miner, Wyoming; Edward Carlin, Miner, Luzerne.

The following applicants passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Robert Thomas, Philip Williams, William Coutts, David Coutts, Forty Fort; Mearl W. Evans, Dorranceton; William S. Siley, West Pittston; Howard G. Shulde, Charles W. Thomas, Wyoming.

ASSISTANT MINE FOREMEN

Matthew J. Carlin, Malachi Glennon, Patrick J. Lavin, Michael Boland, Luzerne; Edward Guilford, Edward J. Ruane, West Pittston; John McDonnell, Richard K. Jones, Kingston; George W. Hutchinson, Archibald K. Lindsay, Forty Fort; George W. Brown, Duryea; Samuel G. Booth, Jr., Wyoming; Mordecai Jones, Edwardsville; William Jones, Dorranceton; Bernard McEnaney, Exeter, Daniel McGahagan, West Wyoming.

NINTH DISTRICT

LUZERNE COUNTY

Wilkes-Barre, Pa., February 14, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Ninth Anthracite District, for the year ending December 31, 1913.

Respectfully submitted,

D. T. DAVIS, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	16
Number of mines,	44
Number of mines in operation,	43
Number of tons of coal shipped to market,	4,763,324
Number of tons used at mines for steam and heat,	440,932
Number of tons sold to local trade and used by employes,	144,942
Number of tons produced,	5,349,198
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	7,727
Number of persons employed outside,	2,292
Number of fatal accidents inside of mines,	33
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	39
Number of non-fatal accidents outside,	5
Number of tons of coal produced per fatal accident inside,	162,097
Number of tons produced per fatal accident outside,	1,783,066
Number of tons produced per fatal accident inside and outside,	148,589
Number of persons employed per fatal accident inside,	234
Number of persons employed per fatal accident outside,	764
Number of persons employed per fatal accident inside and outside,	278
Number of persons employed per non-fatal accident inside,	198
Number of persons employed per non-fatal accident outside,	458
Number of persons employed per non-fatal accident inside and outside,	228
Number of wives made widows,	25
Number of children made orphans,	54
Number of steam locomotives used inside of mines,	1
Number of steam locomotives used outside,	13
Number of compressed air locomotives used inside,	6
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	28
Number of electric motors used outside,	....
Number of fans in use,	39
Number of furnaces in use,	....
Number of gaseous mines in operation,	27
Number of non-gaseous mines in operation,	16
Number of new mines opened,	1
Number of old mines abandoned,	5

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Lehigh and Wilkes-Barre Coal Company,	1,545,460
Delaware and Hudson Company,	1,222,452
Delaware, Lackawanna and Western Railroad Company,	1,154,632
Kingston Coal Company,	1,102,511
Plymouth Coal Company,	156,273
George F. Lee Coal Company,	111,905
West Nanticoke Coal Company,	35,978
Bright Coal Company,	19,987
Total,	5,349,198

Production by Counties

Luzerne,	5,349,198

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh and Wilkes-Barre Coal Co., ...	9	......	9	15	2	17	171,728	103,031	1,953	555	2,508	217	....	130	278
Delaware and Hudson Co., ...	4	2	6	8	2	10	305,613	152,807	1,765	642	2,407	441	321	221	221
Delaware, Lackawanna and Western Railroad Co., ...	14	1	15	5	......	5	82,473	230,926	1,898	377	2,275	136	377	379	....
Kingston Coal Co., ...	5	......	5	4	1	5	220,502	275,628	1,560	485	2,045	312	....	390	485
Plymouth Coal Co., ...	......	......	......	5	......	5	....	31,255	248	127	375	....	....	50	....
George F. Lee Coal Co., ...	1	......	1	1	......	1	111,905	111,905	187	63	250	187	....	63	....
Bright Coal Co., ...	......	......	......	1	......	1	....	19,987	23	23	46	....	....	23	....
Miscellaneous Companies, ...	......	......	......	......	......	......	....	....	93	20	113	....	....	....	......
Totals and averages for district, ...	33	3	36	39	5	44	162,097	137,159	7,727	2.292	10,019	234	764	198	458

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentage
Causes of Accidents Inside														
Falls of coal, ...	1	4	....	1	....	1	2	....	....	....	....	....	9	27.27
Falls of roof, ...	1	....	1	2	1	....	....	2	1	2	....	....	10	30.31
Explosions of gas, ...	....	....	....	2	....	....	....	....	....	....	....	....	2	6.06
Suffocation by gas, etc., ...	....	....	....	4	....	....	....	....	....	....	....	....	4	12.12
Blasts, premature and otherwise, ...	....	....	1	....	2	1	....	....	....	....	1	....	5	15.15
Falling into shafts, ..	....	....	....	....	....	....	....	....	1	....	....	....	1	3.03
Mules, ...	....	....	....	....	....	....	....	....	1	....	....	....	1	3.03
Machinery, ...	....	....	....	....	....	....	....	....	1	....	....	....	1	3.03
Totals, ...	2	4	2	9	3	2	2	2	4	2	1	....	33	100.00
Causes of Accidents Outside														
Cars, ...	....	....	....	1	....	....	....	....	....	....	....	....	1	33.33
Machinery, ...	....	....	....	....	....	....	....	....	....	....	1	....	1	33.33
Burned by hot ashes,	....	....	....	....	1	....	....	....	....	....	....	....	1	33.34
Totals, ...	....	....	....	1	1	....	....	....	....	....	1	....	3	100.00
Grand totals inside and outside, ...	2	4	2	10	4	2	2	2	4	2	2	....	36	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentage
Causes of Accidents Inside														
Falls of coal, ...	....	....	....	....	1	....	....	1	2	1	....	....	5	12.82
Falls of slate, ...	....	....	....	....	....	....	....	....	....	....	....	1	1	2.57
Falls of roof, ...	1	....	1	....	....	....	1	2	....	3	2	2	12	30.77
Mine cars, ...	....	....	....	....	2	1	....	1	....	3	1	1	9	23.08
Explosions of gas, ...	....	....	....	2	....	....	....	....	....	....	....	....	2	5.13
Blasts, premature and otherwise, ...	....	1	....	....	1	....	....	....	....	....	1	....	3	7.69
Struck by cage, ...	....	....	....	....	....	....	....	....	....	....	....	1	1	2.56
Struck by piece of rock, ...	....	....	....	....	....	....	2	....	....	....	....	....	2	5.13
By falling, ...	....	....	....	1	....	....	....	....	....	....	....	....	1	2.56
Struck by timber, ...	1	....	....	1	....	....	....	....	....	....	....	....	2	5.13
Scalded by steam, ...	1	....	....	....	....	....	....	....	....	....	....	....	1	2.56
Totals, ...	3	1	1	4	4	1	3	4	2	7	4	5	39	100.00
Causes of Accidents Outside														
Machinery, ...	....	1	....	....	....	....	....	1	....	....	....	....	2	40.00
Mules, ...	....	....	....	....	....	....	....	1	....	....	....	....	1	20.00
By falling, ...	....	....	....	1	....	....	1	....	....	....	....	....	2	40.00
Totals, ...	....	1	....	1	....	....	1	2	....	....	....	....	5	100.00
Grand totals inside and outside, ...	3	2	1	5	4	1	4	6	2	7	4	5	44	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	1	....	3	3	1	2	....	1	....	1	....	13
Miners' laborers,	....	1	2	5	....	1	....	1	1	2	....	....	13
Company men,	1	2	....	1	....	....	....	1	1	....	....	....	6
Engineers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	2	4	2	9	3	2	2	2	4	2	1	....	33
Outside													
Slatemen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Laborers,	....	....	....	1	1	....	....	....	....	....	....	....	2
Totals,	....	....	....	1	1	....	....	....	....	....	1	....	3
Grand totals inside and outside,	2	4	2	10	4	2	2	2	4	2	2	....	36

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	....	1	2	....	....	2	2	2	3	2	1	16
Miners' laborers,	1	1	....	2	3	....	1	2	....	2	1	1	14
Drivers and runners,	....	....	....	....	....	1	....	....	....	....	1	1	3
Doorboys and helpers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Company men,	1	....	....	....	1	....	....	....	....	1	....	1	4
Footmen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	3	1	1	4	4	1	3	4	2	7	4	5	39
Outside													
Blacksmiths and carpenters,	....	....	....	....	....	....	1	....	....	....	....	....	1
Slatepickers (boys),	....	1	....	....	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	1	....	....	....	2	....	....	....	....	3
Totals,	....	1	....	1	....	....	1	2	....	....	....	....	5
Grand totals inside and outside,	3	2	1	5	4	1	4	6	2	7	4	5	44

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	....	....	....	....	....	....	2	....	....	....	3
English,	....	1	....	....	....	....	....	....	....	....	....	....	1
Welsh,	....	2	....	....	1	1	....	....	....	....	....	....	4
Scotch,	....	....	....	....	1	....	....	....	....	....	...	....	1
German,	....	....	....	....	....	....	....	....	...	....	1	....	1
Polish,	1	1	2	4	1	1	....	1	....	1	....	....	12
Italian,	...	....	....	1	....	....	....	....	....	....	....	....	1
Slavonian,	....	....	....	1	....	....	....	1	....	1	1	....	4
Lithuanian,	....	....	....	2	1	....	2	....	1	....	....	....	6
Austrian,	....	....	....	1	....	....	....	....	....	....	....	....	1
Russian,	....	....	....	1	....	....	....	....	1	....	....	....	2
Totals,	2	4	2	10	4	2	2	2	4	2	2	....	36

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	...	1	....	....	....	1	1	1	....	....	2	2	8
English,	1	....	....	....	....	....	....	....	....	....	...	....	1
Welsh,	1	....	1	....	....	....	1	....	....	1	....	....	4
Scotch,	....	....	....	....	....	....	....	....	....	1	....	....	1
Irish,	....	....	....	1	....	....	....	....	....	....	....	....	1
Polish,	....	1	....	1	4	....	2	2	....	4	1	2	17
Italian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Slavonian,	....	....	....	1	....	....	....	....	....	....	1	....	2
Lithuanian,	1	....	....	2	....	....	....	3	1	1	....	....	8
Austrian,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	2	2	1	5	4	1	4	6	2	7	4	5	44

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lehigh and Wilkes-Barre Coal Co.																
Nottingham No. 15 Colliery:																
				24	7.10	6	70	2.1								
				24	8	6	70	2.1								
Nottingham, ...	Shaft,.....	Gaseous, ..	5 Fans, ...	24	8	6	75	2.0	Guibal, ...	Steam,......		21	469,330	328,068	553,255	627
				24	8	6	73	2.2								
				24	8	6	75	2.0								
Reynolds, ...	Slope, ...	Gaseous, ..	2 Fans, ...	23.9	5.7	5.1	60	1.1								
				5	1.4	1	290	...	Sturtevant,	Electricity,.						
Lance No. 11 Colliery:																
				34.3	10.11	8.11	52	2.1								
Lance, ...	Shaft,.....	Gaseous, ..	3 Fans, ...	35	11.9	8.9	49	2.1	Guibal, ...	Steam,......	..	14	269,360	183,720	358,790	443
				35	11.9	8.9	49	2.1								
Parrish No. 23 Colliery:																
Parrish, ...	Slope, ...	Gaseous, ..	2 Fans, ...	24	8	7.4	70	2.1	Guibal, ...	Steam,......	..	10	93,096	87,000	102,023	203
				20	5.8	5.8	80	2.1								
Buttonwood No. 22 Colliery:*																
Buttonwood, ...	Shaft,.....	Gaseous, ..	2 Fans, ...	35	11.9	10.6	50	2	Guibal, ..	Steam,......	..	9	164,880	132,150	170,940	85
				20	5.7	5.9	......	....								

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*Idle.

Inman No. 21 Colliery:†																
Inman,	Shaft,	....	....	......	......	......	......	......	....	....	..	..	....	....	....	......
Delaware and Hudson Co.																
Plymouth No. 3 Colliery:																
Plymouth No. 3,	Shaft,	Gaseous,	Fan,	28	10	7.6	60	2.2	Guibal,	Steam,	..	13	287,000	243,000	337,000	646
Plymouth (Abbott Vein),	Slope,			17	5	4	45	2								
Plymouth,	Shaft,			17	5	4	90	1.2								
Plymouth No. 5 Colliery:																
Plymouth No. 4,	Shaft,	Gaseous,	Fan,	17	5	4	100	.7	Guibal,	Steam,	..	19	413,900	335,000	465,000	669
Plymouth No. 5,				22	5	6.6	85	.3								
Boston,				22	5	6.6	75	.2								
Plymouth No. 2 Colliery:																
Plymouth,	Shaft,	Gaseous,	Fan,	28	10	7.6	71	3.4	Guibal,	Steam,	..	14	290,000	268,000	330,000	541
Plymouth,	Shaft,	Gaseous,	Fan,	22	5	6.6	80	2.1								
Delaware, Lackawanna and Western Railroad Co.																
Woodward Colliery:																
Woodward No. 1 (Red Ash),	Shaft,	Gaseous,	2 Fans,	35	9.2	10.1	46	2.0	Dickson,	Steam,		39	611,425	478,590	684,510	1,286
				20	6.0	6	95	1.8	Dickson,	Steam,						
Woodward No. 2 (Red Ash),	Shaft,	Gaseous,	2 Fans,	16	5.8	6.3	105	1.6	Dickson,	Steam,						
				20	7	6.6	120	3.2	Jeffrey,	Steam,						
Woodward No. 3,	Shaft,	Gaseous,	2 Fans,	20	7.0	6.6	120	2.1	Jeffrey,	Steam,						
				20	7	6.6	120	2.1	Jeffrey,	Steam,						
Woodward No. 17,	Slope,	Gaseous,	Fan,	16	5	4	75	1.0	D. L. and W.	Steam,	3	3	43,000	37,200	48,375	105
Avondale Colliery:																
Avondale,	Shaft,	Gaseous,	Fan,	25	8	8	74	2.6	Vulcan,	Steam,	..	5	99,600	82,000	120,000	355
Avondale,	Shaft,	Gaseous,	Fan,	14	5.5	3.5	120	1.3	Dickson,	Steam,	..	2	121,400	108,000	130,800	
Loomis Colliery:																
Loomis,	Shaft,	Gaseous,	Fan,	20	7	6.2	58	1.5	Jeffrey,	Steam,		5	110,000	110,000	121,000	152
Loomis,	Shaft,	Gaseous,														
Loomis,	Slope,	Gaseous,	Fan,	20	7	6.2	58	1.5	Jeffrey,	Steam,						
Kingston Coal Co.																
Kingston No. 2 Colliery:																
Kingston No. 2,	Shaft,	Gaseous,	Fan,	25	8	7.8	70	1.5	Guibal,	Steam,	..	6	114,000	102,500	122,600	425
Kingston No. 3,	Shaft,	Gaseous,	Fan,	21	6	6.9	78	1.3	Guibal,	Steam,	..	6	108,500	81,300	125,000	418
Kingston,	Slope,	Gaseous,	Fan,	25	8	8	60	.5	Guibal,	Steam,	..	7	106,000	94,000	109,000	322
Kingston,	Drift,	Gaseous,														
Gaylord Colliery:																
Gaylord,	Slope,	Non-gas.,	Fan,	25	8	8	60	1.1	Guibal,	Steam,	..	7	114,900	95,100	*95,100	395
Plymouth Coal Co.																
Dodson Colliery:																
Dodson,	Shaft,	Gaseous,	Fan,	20	6.6	5.8	90	2.3	Guibal,	Steam,	..	7	100,000	79,525	125,000	248

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*A portion of the current escapes through abandoned inaccessible workings.

†New mine; sinking shaft.

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
George F. Lee Coal Co. Chauncey Colliery:																
Chauncey, ...	Slope, Slope, Slope, Slope, Drift, . Drift, .	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	4	62,000	52,500	69,000	163
West Nanticoke Coal Co. West Nanticoke Colliery:																
West Nanticoke No. 1 (Red Ash),	Slope, ..	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	..	29,150	20,000	30,600	45
West Nanticoke No. 1 (Red Ash),	Tunnel,												15,400	10,000	16,380	8
West Nanticoke No. 1 (Red Ash),	Drift, ...												7,800	5,000	8,320	2
West Nanticoke No. 2 (Red Ash),	Drift, ..												12,320	9,000	13,870	16
West Nanticoke No. 3, (Red Ash),	Drift, ...												12,600	9,000	14,500	11
West Nanticoke No. 4 (Red Ash),	Drift, ...												10,890	10,000	12,600	2
West Nanticoke No. 1 (Ross),	Drift, ...												9,350	8,000	10,080	6
West Nanticoke No. 2 (Ross),	Drift, ...												8,000	7,000	9,600	2

Bright Coal Co. Hillside Colliery: **Hillside,**	Slope, ...	Non-gas., .	Fan, ...	10	4	2.7	85	2	Guibal, ...	Steam,......	..	1	44,000	44,000	48,000	23

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh and Wilkes-Barre Coal Co.						
Nottingham No. 15, Lance No. 11, Parrish No. 23, Buttonwood No. 22,* Inman No. 21,†	Luzerne, ...	C. F. Huber, General Manager,	Wilkes-Barre,	E. J. Newbaker,	Wilkes-Barre,	C. R. R. of N. J.
Washeries						
Buttonwood, Parrish,	Luzerne, ...	C. F. Huber, General Manager,	Wilkes-Barre,	E. J. Newbaker,	Wilkes-Barre,	C. R. R. of N. J.
Delaware and Hudson Co.						
Plymouth Nos. 2, 3 and 5,	Luzerne, ...	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Washeries						
Plymouth Nos. 2, 3 and 5,	Luzerne, ...	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Delaware, Lackawanna and Western Railroad Co.						
Woodward, Avondale, Loomis,	Luzerne, ...	C. E. Tobey,	Scranton,	H. G. Davis,	Kingston,	D. L. and W.
Kingston Coal Co.						
Kingston No. 2,	Luzerne, ...	F. E. Zerbey,	Kingston,	Thomas H. Williams	Kingston,	D. and H., D. L. and W. and L. V.
Gaylord,				R. A. Smith,	Plymouth,	D. L. and W. and D. and H.
Gaylord Washery,				R. A. Smith,	Plymouth,	D. L. and W. and D. and H.
Plymouth Coal Co.						
Dodson,	Luzerne, ...	Gilbert S. Jones,	Dorranceton,			D. L. and W.
George F. Lee Coal Co.						
Chauncey,	Luzerne, ...	George F. Lee,	Wilkes-Barre,			D. L. and W.
West Nanticoke Coal Co.						
West Nanticoke,	Luzerne, ...	A. D. W. Smith,	Wilkes-Barre,	E. W. Davies,	Dorranceton,	Pennsylvania
Bright Coal Co.						
Hillside,	Luzerne, ...	David Spruks,	Scranton,	Jonathan Vipond,	Scranton,	D. and H.

*Idle.
†New mine.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh and Wilkes-Barre Coal Co.													
Nottingham No. 15,	Luzerne,	715,430	65,411	15,075	795,919	[illegible]	1,139	7	10	379,350	8,050	770	170
Lance No. 11,		339,974	37,398	2,930	380,302	262	725	1	4	279,150	4,500	28,300	110
Parrish No. 23,		164,201	27,403	2,082	193,686	242	431	1	1	73,625	88	41,830	67
Buttonwood No. 22,		....	....	....	....	......	156	......	1	....	....	....	38
Inman No. 21,		....	....	....	....	......	......	......	1	....	....	....	......
		1,219,605	130,215	20,087	1,369,907	....	2,451	9	17	732,125	12,638	70,900	385
Washeries													
Buttonwood,	Luzerne,	78,821	32,034	7,086	117,941	218	30	......	......	....	....	....	......
Parrish,		22,362	27,041	8,209	57,612	201	21	......	......	....	....	....	......
		101,183	59,075	15,295	175,553	......	51	......	......	....	....	....	......
Totals,	....	1,320,788	189,290	35,382	1,545,460	......	2,502	9	17	732,125	12,638	70,900	385
Delaware and Hudson Co.													
Plymouth No. 3,	Luzerne,	479,708	1,519	5,543	486,770	272	846	4	6	211,075	6,152	....	92
Plymouth No. 5,		414,430	2,027	5,478	421,935	265	1,007	1	1	247,325	4,172	....	122
Plymouth No. 2,		181,504	31,635	....	213,139	173	574	1	3	169,350	5,892	....	62
		1,075,642	35,181	11,021	1,121,844	......	2,427	6	10	627,750	16,216	....	276

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Washeries													
Plymouth No. 3,	Luzerne,	25,294	41,235	....	66,529	58	*	......	......	....	....	....	......
Plymouth No. 5,		1,759	26,560	....	28,319	5	†	......	......	....	....	....	......
Plymouth No. 2,		889	4,871	....	5,760	7	‡	......	......	....	....	....	......
		27,942	72,666	....	100,608	70	......	......	......	....	....	....	......
Totals,	....	1,103,584	107,847	11,021	1,222,452	......	2,407	6	10	627,750	16,216	....	276
Delaware, Lackawanna and Western Railroad Co.													
Woodward,	Luzerne,	873,081	42,132	8,338	923,551	262	1,640	9	4	709,000	12,750	81,024	133
Avondale,		137,462	16,941	1,813	156,216	224	444	4	1	80,000	4,050	900	48
Loomis,§,		74,829	30	6	74,865	281	191	2	......	68,650	4,454	17,113	22
Totals,	....	1,085,372	59,103	10,157	1,154,632	......	2,275	15	5	857,650	21,254	99,037	203
Kingston Coal Co.													
Kingston No. 2,	Luzerne,	766,597	21,592	70,783	858,972	290	1,540	4	4	605,350	8,550	7,850	167
Gaylord,		205,707	20,000	8,594	234,301	287	493	1	1	85,000	14,100	....	53
		972,304	41,592	79,377	1,093,273	......	2,033	5	5	690,350	22,650	7,850	220
Gaylord Washery,	Luzerne,	6,783	....	2,455	9,238	80	12	......	......	....	....	....	......
Totals,	....	979,087	41,592	81,832	1,102,511	......	2,045	5	5	690,350	22,650	7,850	220

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*Included with Plymouth No. 3 Colliery.
†Included with Plymouth No. 5 Colliery.
‡Included with Plymouth No. 2 Colliery.
§Coal prepared at Bliss Colliery.

Plymouth Coal Co.													
Dodson,	Luzerne,	117,600	36,500	2,173	156,273	191	375	......	5	34,400	6,000	12,200	35
George F. Lee Coal Co.													
Chauncey,	Luzerne,	102,970	4,800	4,135	111,905	276	250	1	1	12,500	4,200	....	46
West Nanticoke Coal Co.													
West Nanticoke,	Luzerne,	35,972	....	6	35,978	[†]	113	......	......	13,100	2,357	3,725	7
Bright Coal Co.													
Hillside,	Luzerne,	17,951	1,800	236	19,987	260	46	......	1	12,000	575	....	13
Grand totals,	....	4,763,324	440,932	144,942	5,349,198	......	10,019	36	44	2,979,875	85,890	193,712	1,185

[†] Coal prepared by Susquehanna Coal Company at No. 5 Breaker.

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Lehigh and Wilkes-Barre Coal Co.,	Luzerne,	......	......	51	9,525	9,525	3	6	......	187	17,607	13	11,719	7,648	......	13
Delaware and Hudson Co.,		54	1,458	27	7,000	8,458	......	......	......	218	8,695	10	14,900	4,150	2	5
Delaware, Lackawanna and Western Railroad Co.,		......	......	24	4,830	4,830	3	......	22	70	11,842	13	18,080	8,282	6	3
Kingston Coal Co.,		......	......	13	3,450	3,450	7	......	6	42	4,750	3	10,500	2,200	1	1
Plymouth Coal Co.,		2	1,000	11	1,650	2.650	......	....	......	18	2,650	5	3,500	3,500	1	4
George F. Lee Coal Co.,		......	......	5	310	310	......	......	......	5	260	......	......	......	......	......
West Nanticoke Coal Co.,		......	......	......	......	....	1	......	......	......	......	......	......	......	4	......
Bright Coal Co.,		3	235	......	......	235	......	......	......	6	340	2	250	52	......	......
Totals,		59	2,693	131	26,765	29,458	14	6	28	546	46,144	46	58,949	25,832	14	26

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh and Wilkes-Barre Coal Co., ...	Luzerne, ...	5	5	24	636	464	207	83	25	504	....	1,953	..	4	25	113	131	21	13	248	555	2,508
Delaware and Hudson Co., ...		4	5	15	532	582	241	52	17	275	42	1,765	..	5	23	120	71	109	3	311	642	2,407
Delaware, Lackawanna and Western Railroad Co., ...		6	3	19	587	594	164	66	26	282	151	1,898	..	4	36	61	45	....	5	226	377	2,275
Kingston Coal Co., ...		5	14	5	573	484	202	23	3	126	125	1,560	2	3	56	38	3	51	7	325	485	2,045
Plymouth Coal Co., ...		1	1	4	55	70	30	16	8	43	20	248	1	1	7	25	25	7	2	59	127	375
George F. Lee Coal Co.,		1	1	1	66	70	12	8	....	28	....	187	..	1	4	4	23	....	4	27	63	250
West Nanticoke Coal Coal Co., ...		1	....	1	37	45	8	....	....	......	1	93	..	..	1	3	3	4	1	8	20	113
Bright Coal Co., ...		1	....	....	10	6	2	....	1	1	2	23	1	1	1	4	8	....	1	7	23	46
Totals, ...	....	24	29	69	2,496	2,315	866	248	80	1,259	341	7,727	4	19	153	368	309	192	36	1,211	2,292	10,019

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh and Wilkes-Barre Coal Co.,	Luzerne,	22	20	17	22	20	22	19	13	15	21	20	19	230
Delaware and Hudson Co.,		21	20	19	18	18	19	18	18	19	20	19	18	227
Delaware, Lackawanna and Western Railroad Co.,		23	20	4	23	22	22	21	22	21	23	20	22	243
Kingston Coal Co.,		26	23	20	25	24	25	25	24	25	26	22	24	289
Plymouth Coal Co.,		13	16	16	16	16	18	16	16	15	16	15	18	191
George F. Lee Coal Co.,		26	23	21	23	23	24	20	20	24	26	22	24	276
Bright Coal Co.,		24	20	11	13	24	24	24	22	25	25	24	24	260

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	4	Andrew Williams, ...	Polish, ...	Miner, ...	32	M.	1	1	Gaylord, ...	Luzerne, .	Fatally injured by fall of coal at face of chamber.
	17	John Symons, ...	American, ..	Company man	27	M.	1	1	Plymouth No. 2, ...		Killed by fall of roof on gangway.
Feb.	14	Joseph Patton, ...	English, ...	Company man	55	M.	1	1	Nottingham No. 15, ..		Killed by fall of coal in chamber.
		Thomas Pugh, ...	Welsh, ...	Company man	35	M.	1	3	Nottingham No. 15, ..		Killed by fall of coal in chamber.
	20	Samuel Thomas, ...	Welsh, ...	Miner, ...	31	S.	....	....	Avondale, ...		Killed by fail of coal at face of chamber.
		Simon Stark, ...	Polish, ...	Laborer, ...	45	S.	....	....	Avondale, ...		Killed by fall of coal at face of chamber.
March	3	Stanley Semtock, ...	Polish, ...	Laborer, ...	42	M.	1	5	Kingston No. 2, ...		Killed by fall of roof at face of chamber.
	11	Stanley Tubevatch, ..	Polish, ...	Laborer, ...	33	M.	1	3	Loomis, ...		Killed by premature blast on gangway.
April	12	Wadislaw Prachick, ..	Polish, ...	Laborer, ...	21	S.	....	....	Woodward, ...		Instantly killed by explosion of gas in abandoned workings
		Michael Good, ...	Slavonian, ..	Company man	50	M.	1	....	Woodward, ...		Instantly killed by explosion of gas in abandoned workings.
		William Delecta, ...	Austrian, ..	Laborer, ...	45	M.	1	3	Woodward, ...		Suffocated by afterdamp on gangway whil endeavoring to escape.
		Andrew Yaworski, ...	Polish, ...	Laborer, ...	35	M.	1	2	Woodward, ...		Suffocated by afterdamp on gangway whil endeavoring to escape.
	14	George Shuckusky, ...	Polish, ...	Laborer, ...	34	M.	1	....	Plymouth No. 3, ...		Killed by fall of coal in chamber.
	17	John Ulvaria, ...	Italian, ...	Miner, ...	33	M.	1	5	Kingston No. 2, ...		Killed by fall of roof at face of chamber.
	24	John Solina, ...	Polish, ...	Laborer, ...	22	S.	....	....	Plymouth No. 3, ...		Fatally injured by cars. Outside
	25	John Carlrisson, ...	Lithuanian,	Miner, ...	23	S.	....	....	Woodward.		Fatally injured by fall of roof at face of chamber.
		George Kershaller, ...	Lithuanian,	Miner, ...	41	M.	1	4	Nottingham No. 15,		Smothered by afterdamp in airway.
		Michael Semmett, ...	Russian, ...	Laborer, ...	27	M.	1	....			
May	6	Tofel Krukunis, ...	Lithuanian,	Miner, ...	39	M.	1	....	Plymouth No. 3, ...		Killed by fall of roof at face of airway.
	9	David James, ...	Welsh, ...	Miner, ...	33	M.	1	....	Avondale, ...		Fatally injured by premature blast at fac of chamber.
	14	Archie Newell, ...	Scotch, ...	Laborer, ...	29	S.	....	....	Plymouth No. 5, ...		Fatally burned by hot ashes. Outside.
	26	Alexander Cavish, ...	Polish, ...	Miner, ...	27	M.	1	1	Woodward, ...		Killed by premature blast at face of chamber.
June	30	Walter Thomas, ...	Welsh, ...	Laborer, ...	45	M.	1	3	Loomis, ...		Killed by fall of coal on airway.
		Joseph Lekez, ...	Polish, ...	Miner, ...	35	M.	1	3	Nottingham No. 15, ..		Killed by premature blast at face of cham ber.
July	1	Felez Yerbanitz, ...	Lithuanian,	Miner, ...	49	M.	1	4	Lance No. 11, ...		Killed by fall of coal at face of chamber.
	20	George Peerless, ...	Lithuanian,	Miner, ...	34	M.	1	3	Plymouth No. 3, ...		Killed by fall of coal at face of chamber.

TABLE 4.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Aug.	25	John Gush, ...	Slavonian, ..	Company man	22	S.	....	....	Nottingham No. 15, ..	Luzerne, ..	Killed by fall of roof on airway.
	26	Joseph Zaconis, ...	Polish, ...	Laborer, ...	29	S.	....	....	Parrish, ...		Killed by fall of roof on gangway.
Sept.	13	Anthony Gibbons, ...	Lithuanian,	Miner, ...	34	M.	1	4	Kingston No. 2, ...		Fatally injured by fall of roof at face of chamber.
		Ralph Worman, ...	American, ..	Company man	21	S.	....	....	Nottingham No. 15, ..		Fatally injured by being dragged by mule on slope.
	16	David Phillips, ...	American, ..	Engineer, ...	26	S.	....	....	Woodward, ...		Killed while working at his engine on slope. His body was found lying across the shaft of his engine.
	30	Constanti Camburoski,	Russian, ...	Laborer, ...	25	S.	....	....	Woodward, ...		Killed by falling off cage into shaft.
Oct.	4	George Ela, ...	Polish, ...	Laborer, ...	37	M.	1	2	Woodward, ...		Fatally injured by fall of roof at face of chamber.
	18	Joseph Drinko, ...	Slavonian, ..	Laborer, ...	32	M.	1	2	Kingston No. 2, ...		Fatally injured by fall of roof at face of chamber.
Nov.	7	George Kline, ...	German, ...	Slate man, ..	61	M.	1	...	Avondale, ...		Killed by machinery in breaker. Outside.
	20	Thomas Drabick, ...	Slavonian, ..	Miner, ...	40	M.	1	4	Chauncey, ...		Killed by premature blast at face of chamber.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	1	Humphrey Humphreys	Welsh, ...	Miner, ...	33	M.	Dodson, ...	Luzerne, .	Scalded by steam on gangway.
	6	Thomas Clark, ...	English, ...	Company man, ...	30	M.	Nottingham No. 15, ...		Wrist fractured by timber falling on him on gangway.
	27	John Slowgas, ...	Lithuanian,	Laborer, ...	22	S.	Lance No. 11, ...		Arm fractured by fall of roof at face of chamber.
Feb.	14	George Johns, ...	American, ..	Laborer, ...	21	S.	Nottingham No. 15, ...		Seriously injured by explosion of blast at face of chamber.
	28	John Chopick, ...	Polish, ...	Slatepicker, ...	17	S.	Kingston No. 2, ...		Leg fractured by machinery. Outside.
March	6	John Lloyd, ...	Welsh, ...	Miner, ...	26	S.	Nottingham No. 15, ...		Leg fractured by fall of roof at face of chamber.
April	6	John Shefcow, ...	Lithuanian,	Laborer, ...	41	M.	Nottingham No. 15, ...		Leg fractured by falling while unloading timber. Outside.
	10	Wadeck Cekanis, ...	Lithuanian,	Miner, ...	33	M.	Nottingham No. 15, ...		Leg fractured by timber falling on him in chamber.
	12	August Kronjack, ...	Slavonian, ..	Laborer, ...	45	M.	Woodward, ...		Seriously burned by explosion of gas in old workings.
	16	Michael Dopko, ...	Polish, ...	Laborer, ...	30	S.	Nottingham No. 15, ...		Seriously burned by explosion of gas on gangway.
	26	Michael Carell, ...	Irish, ...	Miner, ...	55	S.	Avondale, ...		Ribs fractured by falling in chamber.
May	2	Joseph Sabloski, ...	Polish, ...	Laborer, ...	24	M.	Gaylord, ...		Leg fractured by cars at foot of slope.
	17	Anthony Matscavage, .	Polish, ...	Company man, ...	36	M.	Kingston No. 2, ...		Ribs fractured by cars on slope.
	22	John Brositus, ...	Polish, ...	Laborer, ...	22	S.	Lance No. 11, ...		Slightly injured by fall of coal at face of chamber.
	26	John Masuska, ...	Polish, ...	Laborer, ...	18	S.	Woodward, ...		Arms fractured by blast in cross cut.
June	23	Leo Shebloski, ...	American, ..	Driver, ...	21	S.	Plymouth No. 2, ...		Arm fractured by cars in chamber.
July	8	Robert Jones, ...	Welsh, ...	Miner, ...	33	M.	Woodward, ...		Back broken by fall of roof at face of airway.
	16	Petez Zagaski, ...	Polish, ...	Miner, ...	48	M.	Nottingham No. 15, ...		Seriously injured by being struck by piece of rock in chamber.
		Andrew Hollor, ...	Polish, ...	Laborer, ...	51	S.			
	23	Charles Coyle, ...	American, ..	Carpenter, ...	30	S.	Plymouth No. 3, ...		Arm fractured by falling. Outside.
Aug.	4	Anthony Rosenski, ...	Lithuanian,	Laborer, ...	22	S.	Lance No. 11, ...		Arm fractured by machinery in breaker. Outside.
	9	Steve Jesneski, ...	Polish, ...	Miner, ...	44	M.	Plymouth No. 3, ...		Leg fractured by cars in chamber.
	12	John Consavage, ...	Lithuanian,	Laborer, ...	23	S.	Nottingham No. 15, ...		Arm and foot crushed by fall of roof in chamber.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Aug. 26	Anthony Batt,	Polish,	Miner,	46	M.	Parrish,	Luzerne,	Ribs fractured by fall of roof on gangway.
30	Michael Kader,	Lithuanian,	Laborer,	24	S.	Dodson,		Seriously injured by fall of coal on gangway.
	William Vose,	American,	Laborer,	33	M.	Plymouth No. 3,		Leg fractured by being thrown from mule. Outside.
Sept. 9	Lewis Bilarde,	Italian,	Miner,	27	M.	Hillside,		Leg fractured by fall of coal at face of chamber.
13	John Gerowicz,	Lithuanian,	Miner,	30	M.	Kingston No. 2,		Ribs fractured by fall of coal at face of chamber.
Oct. 8	Ignatz Petrowski,	Polish,	Doorboy,	17	S.	Woodward,		Arm and ribs fractured by cars on slope.
11	John Kukus,	Lithuanian,	Company man,	28	S.	Lance No. 11,		Hips dislocated by cars on gangway.
	Peter Kreywicki,	Polish,	Miner,	43	M.	Plymouth No. 5,		Compound fracture of ankle by fall of roof in chamber.
15	Edward Harry,	Welsh,	Miner,	54	M.	Dodson,		Arm fractured by fall of roof at face of chamber.
16	Andrew Novitski,	Polish,	Laborer,	24	M.	Nottingham No. 15,		Hand crushed by cars in chamber.
23	Frank Lashonski,	Polish,	Laborer,	27	M.	Inman No. 21,		Shoulder blade fractured by fall of roof at face of chamber.
	Thomas Cassidy,	Scotch,	Miner,	57	M.	Plymouth No. 3,		Arm fractured by fall of coal at face of chamber.
Nov. 10	John Maido,	Polish,	Miner,	39	M.	Plymouth No. 2,		Arm fractured by explosion of blast at face of chamber.
	Fred James,	American,	Laborer,	19	S.	Kingston No. 2,		Back broken by fall of roof at face of chamber.
20	Charles Hudock,	Slavonian,	Miner,	39	M.	Plymouth No. 3,		Hand amputated by fall of roof at face of chamber.
	John Buckley,	American,	Runner,	21	S.	Chauncey,		Ribs fractured by cars on gangway.
Dec. 1	George Jones,	American,	Driver,	17	S.	Dodson,		Wrist fractured by cars on plane.
2	David Harry,	American,	Footman,	24	M.	Dodson,		Wrist fractured by being struck by cage at foot of shaft.
5	Anthony Warkoleck,	Austrian,	Company man,	35	M.	Buttonwood No. 22,		Leg fractured by fall of roof at face of chamber.
16	Felix Lidefski,	Polish,	Miner,	41	M.	Plymouth No. 3,		Leg fractured by fall of roof at face of chamber.
17	John Petskowski,	Polish,	Laborer,	23	S.	Plymouth No. 2,		Thigh fractured by fall of slate at face of chamber.

FIRE AT NO. 3 SHAFT, WOODWARD COLLIERY

On September 23, at 7.10 A. M. gas feeders were ignited at the Hillman vein, No. 3 shaft, Woodward colliery, resulting in setting the shaft timber on fire and creating a good deal of excitement. This opening is the main intake for the colliery workings. Upon being notified of the fire I instructed the foremen to proceed at once to remove the men from the mines before making any particular effort to extinguish the fire. I was afraid that the application of water to the fire would increase the quantities of smoke entering the workings to such an extent as to be a menace to the lives of the men.

The fire spread to the upcast side of the shaft, igniting the gas at each of the seams above and below this vein, which is 436 feet from the surface.

At the Kidney and Abbott veins the gas was ignited in the shaft by the burning embers of timber being caught and carried by the air currents.

The gas in the Five Foot and Lance veins, below the Hillman vein, was ignited by the burning timbers falling past them. A temporary dam was built at the bottom of the shaft, on the air shaft side, forming a receptacle for the burning timbers to fall into, where they were immediately extinguished.

Streams of water from the Gasoline pump on Pierce's farm and the spring water mains, were applied and the chemical engine was also used to extinguish these gas feeders, but were of no avail.

The water, however, prevented the fire from spreading along the timbers, and dynamite was successfully used to put out the gas burning at each seam.

The fire was finally extinguished at five o'clock on the morning of September 24.

CONDITION OF COLLIERIES.

LEHIGH AND WILKES-BARRE COAL COMPANY

Nottingham No. 15, Lance No. 11, Parrish No. 23, Buttonwood No. 22 and Inman No. 21 Collieries.—Safety conditions, ventilation and drainage good.

DELAWARE AND HUDSON COMPANY

Plymouth Nos. 2, 3 and 5 Collieries.—Safety conditions, ventilation and drainage good.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Woodward, Avondale and Loomis Collieries.—Safety conditions, ventilation and drainage good.

KINGSTON COAL COMPANY

Kingston No. 2 and Gaylord Collieries.—Safety conditions, ventilation and drainage good.

PLYMOUTH COAL COMPANY

Dodson Colliery.—Safety conditions, ventilation and drainage good.

GEORGE F. LEE COAL COMPANY

Chauncey Colliery.—Safety conditions, ventilation and drainage good.

WEST NANTICOKE COAL COMPANY

West Nanticoke Colliery.—Safety conditions, ventilation and drainage good.

BRIGHT COAL COMPANY

Hillside Colliery.—Safety conditions, ventilation and drainage good.

IMPROVEMENTS

LEHIGH AND WILKES-BARRE COAL COMPANY

Nottingham No. 15 Colliery.—Inside: Completed remodeling of pumping plants on No. 1 slope.

Lance No. 11 Colliery:—Inside: Completed concreting of shaft walls and installed fire doors at top of hoisting shaft.

Outside:—Completed power house.

Buttonwood No. 22 Colliery.—Completed No. 1 tunnel from Stanton to Baltimore vein; also tunnels from Hillman to No. 1 tunnel and No. 1 tunnel to Stanton, for haulage. Completed concrete walls at top of hoisting shaft.

Inman No. 21 Colliery.—Inside: Completed tunnels on both sides of Baltimore shaft to Hillman vein for landing.

DELAWARE AND HUDSON COMPANY

Plymouth No. 3 Colliery.—Completed outlet of G or Stanton vein to Plymouth No. 3 shaft, 7 by 12 by 80 feet, on 14 degree pitch.

Completed tunnel 7 by 12 by 280 feet, light car road, to G or Stanton vein; tunnel, 7 by 12 by 320 feet, light car road, to Cooper vein; plane, 7 by 12 by 60 feet, on 18 degree pitch, for car haul; also car haul, 60 feet, on 18 degree pitch.

Plymouth No. 5 Colliery.—Completed tunnel 7 by 12 by 400 feet, G or Stanton vein, to Plymouth No. 5 shaft; also tunnel 7 by 12 by 90 feet, G or Stanton vein, through fault.

Concreted car haul, G or Stanton vein, 145 feet on 8 degree pitch.

Installed electric hoist on No. 2 plane, Cooper vein, operated by Flory 150 H. P. engine.

Installed 16 by 20 inch Flory steam hoist engine to operate No. 13 plane in Red Ash, in Boston section.

Completed pump room in Red Ash vein 11 by 18 by 38 feet, of concrete and steel; also bore hole, 16 inches by 325 feet, Red Ash vein to surface for pumping.

Plymouth No. 2 Colliery.—Completed air return and outlet from Snake Island to surface 7 by 16 by 170 feet long; air return Abbott to Snake Island 7 by 12 by 130 feet on 35 degree pitch; air return Lance to Abbott 7 by 12 by 130 feet on 30 degree pitch; also tunnel 7 by 12 by 300 feet G or Stanton vein to Plymouth No. 2 shaft.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Woodard Colliery.—Are installing a 20-foot multi-blade ventilating fan on No. 2 shaft, a duplicate of the one installed in 1912.

Driving rock tunnels from Cooper to Lance vein for development and ventilation.

Avondale Colliery.—The work of reopening this colliery after the squeeze of 1910 is not yet completed. The major portion of the workings in which there is virgin coal is in fairly good condition. The Ross vein section, No. 5 slope, is still under water. A large centrifugal electrically operated pump will be installed to remove the water and the mining of coal will be continued.

Loomis Colliery.—The work of development at this colliery is under way; the coal is being shipped for preparation to the Bliss colliery. Installed shaft hoisting engine and steel shaft head frame. The foot of the shaft openings in the Hillman vein is being equipped with concrete side walls and I beams, and single passageways for persons to travel from waiting rooms to foot of shafts when about to be hoisted to the surface. All the work is of a very substantial and permanent character.

The buildings on the surface are of concrete and brick construction.

A 20-foot multi-blade fan is being installed.

The work of widening out the old Dundee shaft to the Mills vein will soon be started. It is also proposed to sink a four compartment shaft from the surface to the Hillman vein, a short distance south of Butzbach's landing, the coal from which will be prepared at the Loomis breaker now under construction. This breaker will have many unique features. It will be constructed of reinforced concrete from the surface to the pocket lines; the rest of the building will be of steel and wired glass. It is intended to make it as nearly fireproof as possible. It is also to be a very large producer. 6,000 tons of coal per 9 hour day will be shipped to market. The company has a large undeveloped territory of coal surrounding these openings. The boiler plant and other equipment will all be of the latest design.

KINGSTON COAL COMPANY

Kingston No. 2 Colliery.—Completed a 12-inch concrete, reinforced steel partition from the Ross vein to the Orchard vein close to the surface and the old wooden brattice was removed from No. 3 shaft.

Installed an 8 by 25 foot double intake fan at the Old slope, driven by 18 by 30 inch direct connected Corliss engine, all encased in concrete, reinforced steel building and connected by concrete upcast to the fanway at the outcrop of the Eleven Foot vein.

Built an addition 22 by 68 feet to the miners' wash house at No. 2 shaft. The wash house is now equipped with six showers, a battery of twelve wash stands, twenty-eight tubs and two hundred and eighty-eight lockers.

Completed a pump discharge bore hole, 315 feet deep, from the surface to the Checker vein No. 3 shaft, dispensing with the cast iron culm line in the shaft.

Completed the addition to the boiler plant at No. 2 and installed 300 H. P. B. and W. boilers; also transferred from the washery and installed at No. 2 300 H. P. B. and W. boilers.

The boiler house is covered by steel truss galvanized iron roof and Pond steel continuous sash ventilator frames.

Gaylord Colliery.—The pump and boiler at the river for supplying wash water were replaced by an Aldrich vertical triplex pump 11 by 12 inches, with a 50 H. P. A. C. electric motor.

The miners wash house has been doubled in size, equipped with five shower baths, battery of twelve wash stands, twenty-four concrete tubs and 246 metallic lockers.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Willow Street School, Plymouth, April 22 and 23. The Board of Examiners was composed of David T. Davis, Mine Inspector, Wilkes-Barre; H. G. Davis, Superintendent, Kingston; Simon Carpenter, Miner, Plymouth; James Addis, Miner, Edwardsville.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Edward P. Davis, Edwardsville; John L. Picton, Alfred E. Roberts, Thomas Baggatt, Plymouth.

ASSISTANT MINE FOREMEN

Samuel Bird, Frank Coggins, William L. Davis, Humphrey Humphrey, Llewelyn Jones, Patrick Mangan, Howard Rowlands, Edward Webber, Plymouth; Elijah Dobson, Chauncey; John T. Morgan, Evan L. Price, Samuel Richards, Daniel T. Williams, Edwardsville; Fred G. Williams, Kingston.

TENTH DISTRICT

LUZERNE COUNTY

Nanticoke, Pa., February 20, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Tenth Anthracite District, for the year ending December 31, 1913, as required by law.

Respectfully submitted,

JOSEPH J. WALSH, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	10
Number of mines,	50
Number of mines in operation,	50
Number of tons of coal shipped to market,	4,596,065
Number of tons used at mines for steam and heat,	393,761
Number of tons sold to local trade and used by employes,	56,609
Number of tons produced,	5,046,435
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	7,652
Number of persons employed outside,	2,355
Number of fatal accidents inside of mines,	30
Number of fatal accidents outside,	2
Number of non-fatal accidents inside of mines,	43
Number of non-fatal accidents outside,	3
Number of tons of coal produced per fatal accident inside,	168,215
Number of tons produced per fatal accident outside,	2,523,218
Number of tons produced per fatal accident inside and outside,	157,701
Number of persons employed per fatal accident inside,	255
Number of persons employed per fatal accident outside,	1,178
Number of persons employed per fatal accident inside and outside,	313
Number of persons employed per non-fatal accident inside,	178
Number of persons employed per non-fatal accident outside,	785
Number of persons employed per non-fatal accident inside and outside,	218
Number of wives made widows,	19
Number of children made orphans,	53
Number of steam locomotives used inside of mines,	2
Number of steam locomotives used outside,	27
Number of compressed air locomotives used inside,	12
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	73
Number of electric motors used outside,	7
Number of fans in use,	44
Number of furnaces in use,	....
Number of gaseous mines in operation,	34
Number of non-gaseous mines in operation,	16
Number of new mines opened,	5
Number of old mines abandoned,	5

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Delaware, Lackawanna and Western Railroad Company,	1,830,512
Susquehanna Coal Company,	1,679,217
West End Coal Company,	631,255
Lehigh and Wilkes-Barre Coal Company,	556,872
Alden Coal Company,	301,488
E. S. Stackhouse Coal Company,	47,091
Total,	5,046,435

Production by Counties

Luzerne,	5,046,435

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware, Lackawanna and Western Railroad Co.	11	1	12	2	......	2	166,410	915,256	2,771	505	3,276	252	505	1,386	....
Susquehanna Coal Co.,	15	......	15	24	2	26	111,948	69,967	2,534	1,155	3,689	169	....	106	578
West End Coal Co.,	......	......	.....	7	......	7	....	90,179	1,036	296	1,332	....	....	148	....
Lehigh and Wilkes-Barre Coal Co.,	1	......	1	8	1	9	556,872	69,609	627	174	801	627	....	78	174
Alden Coal Co.,	2	......	2	......	......	......	150,744	....	560	177	737	280	....	....	....
E. S. Stackhouse Coal Co.,	1	1	2	2	......	2	47,091	23,546	124	48	172	124	48	62	....
Totals and averages for district,	30	2	32	43	3	46	168,215	117,359	7,652	2,355	10,007	255	1,178	178	785

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	1	1	....	2	....	....	....	....	....	....	....	1	5	16.67
Falls of roof,	....	....	....	....	1	4	....	....	2	1	....	4	12	40.00
Mine cars,	1	....	1	....	....	1	....	1	....	....	1	....	5	16.67
Explosions of gas,	....	....	....	....	....	....	3	....	....	....	....	....	3	10.00
Blasts, premature and otherwise,	....	....	....	....	....	....	....	1	....	....	....	....	1	3.33
Struck by prop,	....	....	....	....	....	....	1	....	....	....	....	....	1	3.33
Timber fell on him,	....	....	....	....	....	....	....	....	1	....	....	....	1	3.33
Fall of concrete ring,	....	....	....	....	....	....	....	....	....	....	2	....	2	6.67
Totals,	2	1	1	2	1	5	4	2	3	1	3	5	30	100.00
Causes of Accidents Outside														
Machinery,	....	....	....	....	....	....	....	....	....	1	....	....	1	50.00
Electricity,	....	1	....	....	....	....	....	....	....	....	....	....	1	50.00
Totals,	....	1	....	....	....	....	....	....	....	1	....	....	2	100.00
Grand totals inside and outside,	2	2	1	2	1	5	4	2	3	2	3	5	32	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	1	1	1	1	....	....	....	1	1	....	....	3	9	20.93
Falls of slate,	....	....	....	....	....	....	....	....	....	1	....	....	1	2.33
Falls of roof,	....	....	....	2	...	1	4	....	1	....	....	....	8	18.60
Mine cars,	7	....	1	1	1	....	1	....	1	....	2	2	16	37.21
Explosions of gas,	....	....	....	....	1	....	....	....	....	....	....	....	1	2.33
Blasts, premature and otherwise,	1	....	....	....	1	....	....	....	1	....	....	....	3	6.98
Falling down chambers	....	....	....	1	....	....	....	....	....	....	....	1	2	4.65
Struck by cage,	....	....	1	....	....	....	....	....	....	....	....	....	1	2.33
Struck by rock,	....	....	1	....	....	....	....	....	....	....	....	....	1	2.32
Struck by piece of coal,	....	....	....	....	....	....	....	....	....	....	....	1	1	2.32
Totals,	9	1	4	5	3	1	5	1	4	1	2	7	43	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	....	....	....	1	....	1	33.33
Machinery,	....	....	....	1	....	....	....	....	....	....	....	....	1	33.33
By falling,	....	....	....	....	....	....	....	....	....	....	....	1	1	33.34
Totals,	....	....	....	1	....	....	....	....	....	....	1	1	3	100.00
Grand totals inside and outside,	9	1	4	6	3	1	5	1	4	1	3	8	46	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	1	....	1	1	1	1	1	1	....	....	2	10
Miners' laborers,	1	....	....	1	....	3	2	....	1	1	....	2	11
Drivers and runners,	....	....	....	....	....	....	....	1	....	....	....	....	1
Footmen,	....	....	1	....	....	1	....	....	....	....	1	....	3
Masons,	....	....	....	....	....	....	1	....	....	....	....	....	1
Brakemen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Shaftmen,	....	....	....	....	....	....	....	....	....	....	2	....	2
Motormen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	2	1	1	2	1	5	4	2	3	1	3	5	30
Outside													
Electricians,	....	1	....	....	....	....	....	....	....	....	....	....	1
Chute tenders,	....	....	....	....	....	....	....	....	....	1	....	....	1
Totals,	....	1	....	....	....	....	....	....	....	1	....	....	2
Grand totals inside and outside,	2	2	1	2	1	5	4	2	3	2	3	5	32

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	4	....	....	....	....	....	....	....	....	....	....	....	4
Miners,	2	....	1	3	1	1	4	....	1	1	....	2	16
Miners' laborers,	1	1	2	1	1	....	1	1	3	....	1	5	17
Drivers and runners,	1	....	....	....	....	....	....	....	....	....	....	....	1
Pumpmen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Bratticemen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Footmen,	....	....	1	1	....	....	....	....	....	....	1	....	3
Totals,	9	1	4	5	3	1	5	1	4	1	2	7	43
Outside													
Chute tenders,	....	....	....	1	....	....	....	....	....	....	....	....	1
Company men,	...	....	....	....	....	....	....	....	....	....	1	....	1
Laborers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	....	....	....	1	....	....	....	....	....	....	1	1	3
Grand totals inside and outside,	9	1	4	6	3	1	5	1	4	1	3	8	46

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	1	1	....	....	2	....	....	1	....	1	....	6
English,	....	....	....	....	....	....	....	....	....	1	....	....	1
Welsh,	....	....	....	....	....	1	1	....	....	....	....	....	2
German,	....	....	....	....	....	....	....	....	1	....	2	....	3
Polish,	2	....	....	2	1	1	3	2	....	1	....	2	14
Slavonian,	....	1	....	....	....	....	....	....	....	....	....	1	2
Lithuanian,	....	....	....	....	....	....	....	....	1	....	....	1	2
Russian,	....	....	....	....	....	1	....	....	....	....	....	1	2
Totals,	2	2	1	2	1	5	4	2	3	2	3	5	32

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	....	2	....	....	....	....	....	....	....	1	4
English,	2	....	....	....	....	....	....	....	....	....	....	....	2
Welsh,	3	....	....	....	1	....	....	....	....	....	....	....	4
Polish,	1	1	3	3	1	1	3	....	3	....	3	7	26
Hungarian,	1	....	....	....	....	....	....	....	....	....	....	....	1
Italian,	1	....	1	....	....	....	2	1	....	....	....	....	5
Slavonian,	....	....	....	1	....	....	....	....	1	....	....	....	2
Lithuanian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Tyrolean,	....	....	....	....	1	....	....	....	....	....	....	....	1
Totals,	9	1	4	6	3	1	5	1	4	1	3	8	46

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Delaware, Lackawanna and Western Railroad Co., Auchincloss Colliery:															
Number 1, ...	Shaft,.....	Gaseous, ..	Fan, ...	25	.8	8	70	2.4	Guibal, ...	Steam,......	7	148,500	96,500	160,300	220
Number 2, ...	Shaft,.....	Gaseous, ..	Fan, ...	35	9.5	7	45	2	Guibal, ...	Steam,......	6	170,800	134,200	195,500	268
Bliss Colliery:															
Bliss, ...	Shaft,.....	Gaseous, ..	Fan, ...	35	9.1	9	52	2	Guibal, ...	Steam,......	23	142,000	132,500	164,000	670
Espy, ...	Tunnel, ...	Gaseous, ..	Fan, ...	24	9.25	10	72	1.6	Guibal, ...	Steam,......	7	74,000	69,000	80,500	84
Truesdale Colliery:															
Number 1, ...	Shaft,.....	Gaseous, ..	Fan, ...	25	7	5	72	2.3	Guibal, ...	Steam,......	19	237,843	227,500	241,000	300
Number 2, ...	Shaft,.....	Gaseous, ..	Fan, ...	25	7	5	78	2.5	Guibal, ...	Steam,......	9	177,500	150,000	187,500	245
Number 1, Mills, ...	Slope, ...	Gaseous, ..	Fan, ...	16	7	5	90	2	Jeffrey, ...	Steam,......	9	158,000	124,000	176,000	264
Number 5, ...	Slope, ...	Gaseous, ..													
Number 6, ...	Slope, ...	Gaseous, ..	Fan, ...	12	5	4	145	2.8	Jeffrey, ...	Steam,......	8	163,050	145,000	170,000	216
Truesdale, ...	Tunnel, ...	Gaseous, ..	Fan, ...	12	3.25	3	124	.8	Open running,.	Electricity,.	8	55,300	50,100	70,200	139
Number 20, ...	Tunnel, ...	Gaseous, ..	Fan, ...	12	3.5	3.2	125	.5	Open running,.	Electricity,.	8	62,200	56,100	67,800	177
Susquehanna Coal Co. Colliery No. 5:															
Number 2, ...	Shaft,.....	Gaseous, ..	3 Fans,	25	8	8	52	3	Guibal, ...	Steam,....	7	62,350	60,670	84,700	280
				20	6	6	76	3			1	30,400	29,000	32,000	19
				25	8	8	50	2.7			2	54,100	52,300	55,200	42
Number 4, ...	Slope, ...	Gaseous, ..	4 Fans,	20	6	6	76	3	Guibal, ...	Steam,....	2	78,840	73,460	89,630	70
				20	8.6	8	90	2.8			3	66,000	61,000	71,300	50
				20	12	12	90	2.7			2	25,000	16,700	26,000	32
				15	4	4	72	2.2			1	24,200	17,200	25,300	42

Number 1,	Slope,	Non-gas.,	Natural,	......	......	......	......	......	......	......	1	5,063	4,200	5,214	14
Number 29,	Tunnel,	Non-gas.,	Natural,	......	......	......	......	......	......	......	1	16,800	3,760	18,000	17
Number 2,*	Drift,	Non-gas.,	Natural,	......	......	......	......	......	......	......	1	15,210	5,100	15,300	11
Number 4,	Shaft,	Gaseous,	Fan,	20	6	6	60	1.2	Vulcan,	Steam,	10	115,000	101,000	119,000	300
Number 5,	Shaft,	Gaseous,	Fan,	8	3.5	1.5	42	.2	Sturtevant,	Steam,	2	15,000	12,000	17,000	10
Colliery No. 6:															
Number 6,	Tunnel,	Gaseous,	Fan,	20	6	6	60	.7	Guibal,	Steam,	6	94,000	85,000	95,000	195
Number 6,	Shaft,	Gaseous,	3 Fans,	25	8	8	60	.9	Guibal,	Steam,	8	163,000	125,000	168,000	210
				20	6	6	50	.2	Guibal,	Steam,					
				10	5	1.75	150	1.8	Jeffrey,	Electricity					
Number 7,	Shaft,	Gaseous,	Fan,	20	6	6	55	.2	Guibal,	Steam,	7	68,000	65,000	70,000	295
Number 10,	Slope,	Gaseous,	Fan,	7.5	2	3	175	1.5	Capell,	Electricity,	2	60,000	58,000	62,000	20
Number 1,	Drift,	Gaseous,													
Colliery No. 7:															
Number 1, South,	Shaft,	Gaseous,	2 Fans,	25	8	8	72	2.6	Guibal,	Steam,	10	185,000	161,000	201,000	405
				25	8	8	50	2.8	Guibal,	Steam,					
Number 1, North,	Shaft,	Gaseous,	4 Fans,	20	8	8	50	2.7	Guibal,	Steam,	11	182,000	146,000	199,000	404
				15	4	4	76	1.7	Guibal,	Steam,					
				10	2.5	2.5	180	2.3	Capell,	Electricity					
				25	8	8	50	2.6	Guibal,	Steam,					
West End Coal Co.															
West End Colliery:															
Long,	Drift,	Gaseous,	Fan,	16	4	6	100	1.5	Guibal,	Steam,	4	110,000	70,000	131,000	300
Sand,	Drift,	Gaseous,	Fan,	4	1.6	1	170	.5	Buffalo,	Electricity,	2	11,000	9,000	13,200	135
Barney,	Drift,	Non-gas.,	Fan,	16	4	6	60	.8	Guibal,	Steam,	2	67,000	48,000	68,000	91
Lee,	Shaft,	Gaseous,	Fan,	8	5	2.3	130	1.4	Jeffrey,	Electricity,	2	63,800	57,000	66,300	86
Number 1, Lee,	Drift,	Gaseous,	Fan,	15	4.5	4.5	90	.8	Guibal,	Electricity,	3	96,300	75,000	99,300	224
Number 3, Lee,	Drift,	Non-gas.,	Fan,	4	1.6	1	150	.5	Buffalo,	Electricity,	2	11,000	9,000	12,200	200
Lehigh and Wilkes-Barre Coal Co.															
Wanamie Colliery:															
Number 2,	Slope,	Gaseous,	Fan,	24	8	6	70	1.2	Guibal,	Steam,	11	137,560	102,880	177,000	342
Number 1,	Drift,	Gaseous,	Fan,	24	8	6	70	1.3	Guibal,	Steam,	9	128,570	115,700	139,750	228
Number 3,	Drift,	Gaseous,													
Number 3,	Slope,	Gaseous,													
Polander,	Drift,	Gaseous,													
Number 28,	Tunnel,	Gaseous,	Fan,	8	2.8	2.5	60	.5	Guibal,	Steam,	1	8,500	7,000	9,800	16
Alden Coal Co.															
Alden Colliery:															
Number 1,	Shaft,	Gaseous,	Fan,	15	5	4.7	84	1.8	Guibal,	Steam,	5	62,850	57,100	78,200	77
Number 2,	Shaft,	Gaseous,	2 Fans,	24	8	7	66	1.2	Guibal,	Steam,	13	169,760	126,126	185,200	207
				24	9	5.9	70	1.1							
Baltimore,	Slope,	Non-gas.,	Fan,	15	5	4.7	40	1.	Guibal,	Steam,	1	12,700	12,500	13,000	43

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*New mine.

TABLE I.—Continued.

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
E. S. Stackhouse Coal Co. Salem Colliery:															
Penobscot,	Drift,	Non-gas.,	Natural,	......	.....	......	......	......	....	....	1	12,000	12,000	12,000	4
Penobscot,*	Slope,										1	3,000	1,000	3,000	6
Ross,	Drift,										1	7,300	7,300	7,300	4
Beadle,	Drift,										1	12,300	12,300	Broad Cast	10
Churchey,	Drift,										1	3,000	3,000	3,000	4
Ross Split,	Drift,										1	1,200	600	1,200	2
Number 4,*	Drift,										1	12,000	12,000	Broad Cast	22
Number 3,	Drift,										1	5,400	5,400	Broad Cast	17
Old,*	Tunnel,										1	13,500	8,200	Broad Cast	14
New,*	Tunnel,										1	15,000	15,000	15,200	7

*New mine.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Delaware, Lackawanna and Western Railroad Co.						
Auchincloss, ...	Luzerne, ...	R. A. Phillips, General Manager.	Scranton, ...	H. G. Davis, ...	Kingston, ...	D. L. and W.
Bliss, ...		C. E. Tobey, General Superintendent.	Scranton, ...			
Truesdale, ...						
Susquehanna Coal Co.						
Numbers 5, 6, 7, ...	Luzerne, ...	Robert A. Quin, ...	Wilkes-Barre, ...	Francis H. Kohlbraker.	Nanticoke, ...	Pennsylvania
Nanticoke Washery, ...						
West End Coal Co.						
West End, ...	Luzerne, ...	H. H. Brady, ...	Scranton, ...	H. A. Filmore, ...	Shickshinny, ...	Pennsylvania and C. R. R of N. J.
Lehigh and Wilkes-Barre Coal Co.						
Wanamie, ...	Luzerne, ...	C. F. Huber, Vice President and General Manager.	Wilkes-Barre, ...	E. J. Newbaker, ...	Wilkes-Barre, ...	C. R. R. of N. J.
Alden Coal Co.						
Alden, ...	Luzerne, ...	K. M. Smith, ...	Alden Station, ...	....	....	C. R. R. of N. J.
E. S. Stackhouse Coal Co.						
Salem, ...	Luzerne, ...	E. S. Stackhouse, ...	Shickshinny, ...	....	....	D. L. and W.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Delaware, Lackawanna and Western Railroad Co.													
Auchincloss,	Luzerne,	210,939	16,938	7,732	235,609	221	628	2	......	72,650	5,223	68,775	36
Bliss,		443,446	26,886	3,248	473,580	269	909	......	......	38,200	17,802	17,438	64
Truesdale,		1,089,092	31,812	419	1,121,323	254	1,739	10	2	867,325	104,680	178,550	36
Totals,	....	1,743,477	75,636	11,399	1,830,512	......	3,276	12	2	978,175	127,705	264,763	136
Susquehanna Coal Co.													
Number 5,	Luzerne,	395,021	81,482	11,848	488,351	270	1,319	4	15	299,875	33,860	5,550	120
Number 6,		579,516	49,791	4,930	634,237	257	1,153	6	5	396,975	27,732	19,518	81
Number 7,		340,708	63,067	7,024	410,799	221	1,155	5	6	145,350	22,311	73,065	121
		1,315,245	194,340	23,802	1,533,387	......	3,627	15	26	842,200	83,903	98,133	322
Nanticoke Washery,		144,156	1,674	....	145,830	206	62	......	......	....	....	....	......
Totals,	....	1,459,401	196,014	23,802	1,679,217	......	3,689	15	26	842,200	83,903	98,133	322
West End Coal Co.													
West End,	Luzerne,	575,131	47,000	9,124	631,255	232	1,332	......	7	188,350	76,948	147,587	45
Lehigh and Wilkes-Barre Coal Co.													
Wanamie,	Luzerne,	510,446	43,601	2,825	556,872	248	801	1	9	294,350	16,580	74,391	95

Alden Coal Co.													
Alden,	Luzerne,	262,452	30,532	8,504	301,488	200	737	2	......	172,825	9,300	33,450	67
E. S. Stackhouse Coal Co.													
Salem,	Luzerne,	45,158	978	955	47,091	166	172	2	2	17,450	19,105	....	3
Grand totals,		4,596,065	393,761	56,609	5,046,435	224	10,007	32	46	2,493,350	333,541	618,324	668

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Delaware, Lackawanna and Western Railroad Co., ...	Luzerne, ...	......	......	13	5,318	5,318	2	......	51	55	10,775	8	6,580	5,880	7	5
Susquehanna Coal Co., ...		30	1,010	48	12,214	13,224	15	12	9	91	13,455	8	7,750	4,433	8	11
West End Coal Co., ...		......	......	10	3,300	3,300	7	......	16	28	2,440	8	4,700	4,200	5	3
Lehigh and Wilkes-Barre Coal Co., ...		......	......	10	1,666	1,666	3	......	......	45	2,873	3	4,992	2,400	......	......
Alden Coal Co.,*		......	......	11	2,262	2,262	2	......	......	9	1,375	2	1,800	1,000	1	4
E. S. Stackhouse Coal Co., ...		......	......	2	100	100	.....	......	4	......	....	2	225	200	1	1
Totals, ...	....	30	1,010	94	24,860	25,870	29	12	80	228	30,918	31	26,047	18,113	22	24

*Gasoline locomotives are used inside.

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside: Mine foremen	Inside: Assistant mine foremen	Inside: Fire bosses and assistants	Inside: Miners	Inside: Miners' laborers	Inside: Drivers and runners	Inside: Doorboys and helpers	Inside: Pumpmen	Inside: Company men	Inside: All other employes	Inside: Total inside	Outside: Superintendents	Outside: Foremen	Outside: Blacksmiths and carpenters	Outside: Engineers and firemen	Outside: Slatepickers (boys)	Outside: Slatepickers (men)	Outside: Bookkeepers and clerks	Outside: All other employes	Outside: Total outside	Grand total inside and outside
Delaware, Lackawanna and Western Railroad Co.,	Luzerne,	6	5	29	978	1,010	88	46	15	594	...	2,771	...	4	39	59	126	9	11	257	505	3,276
Susquehanna Coal Co.,		4	10	35	822	787	247	47	20	60	502	2,534	1	5	100	184	143	36	18	668	1,155	3,689
West End Coal Co.,		4	7	2	432	340	30	8	7	206	...	1,036	1	1	28	26	41	25	5	169	296	1,332
Lehigh and Wilkes-Barre Coal Co.,		1	2	8	280	159	53	29	6	89	...	627	...	1	7	25	31	7	4	99	174	801
Alden Coal Co.,		1	1	6	210	150	93	19	5	...	75	560	1	1	12	32	30	33	8	60	177	737
E. S. Stackhouse Coal Co.,		1	...	...	31	42	12	...	...	33	5	124	1	1	4	3	10	2	3	24	48	172
Totals,		17	25	80	2,753	2,488	523	149	53	982	582	7,652	4	13	190	329	381	112	49	1,277	2,355	10,007

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Delaware, Lackawanna and Western Railroad Co.,	Luzerne,	24	22	15	22	22	23	23	23	21	21	19	23	258
Susquehanna Coal Co.,		20	18	17	24	23	24	17	18	21	21	19	21	243
West End Coal Co.,		20	20	13	21	19	20	20	21	19	20	19	20	232
Lehigh and Wilkes-Barre Coal Co.,		21	20	13	21	21	22	21	19	23	24	21	22	248
Alden Coal Co.,		17	17	14	20	13	18	15	17	17	19	16	18	201
E. S. Stackhouse Coal Co.,		26	22	18	10	13	13	14	1	12	12	11	14	166

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	2	John Granzda, ...	Polish, ...	Laborer, ...	22	S.	....	....	Number 6, ...	Luzerne, ...	Killed by falling under car that was being hoisted up slope.
	30	Martin Mecanovage, ..	Polish, ...	Miner, ...	25	M.	1	3	Number 5, ...		Killed by fall of coal at face of chamber while removing pillars.
Feb.	1	John Sprenoga, ...	Slavonian, ..	Miner, ...	38	M.	1	2	Number 6, ...		Killed by fall of coal at face of chamber.
	18	William Raub, ...	American, ..	Electrician, .	21	S.	....	....	Truesdale, ...		Electrocuted while repairing auto starter in breaker. Outside.
March	12	Thomas Rogers, ...	American, ..	Footman, ...	29	M.	1	1	Truesdale, ...		Fatally squeezed between cars on slope lift.
April	22	Stanley Ozekoski, ...	Polish, ...	Laborer, ...	32	S.	....	..	Number 6, ...		Instantly killed by fall of coal while removing pillars.
	22	Frank Burkoski, ...	Polish, ...	Miner, ...	61	M.	1	2			Fatally injured by fall of coal while removing pillars.
May	20	Charles Kolokofski, ..	Polish, ...	Miner, ...	43	M.	1	6	Alden, ...		Killed by fall of rock at the face of chamber.
June	5	Mike Patson, ...	Russian, ...	Miner, ...	35	M.	1	4	Truesdale, ...		Fatally injured by fall of rock at face of gangway.
	19	Albert Ruddick, ...	American, ..	Footman, ...	21	M.	1	....	Truesdale, ...		Fatally injured by cars on slope.
	20	Elmer Thomas, ...	Welsh, ...	Laborer, ...	20	S.	....	....	Truesdale, ...		Killed by fall of rock at face of gangway.
	23	John Kapushinski, ...	Polish, ...	Laborer, ...	35	M.	1	5	Number 7, ...		Killed by fall of rock at face of chamber.
	27	Fred Stackhouse, ...	American, ..	Laborer, ...	29	M.	1	1	Number 7, ...		Fatally injured by fall of rock at face of chamber.
July	10	Peter Gozden, ...	Polish, ...	Laborer, ...	29	M.	1	3	Number 6, ...		Hit on head by prop dislodged by derailed car.
	22	William Warlow, ...	Welsh, ...	Mason, ...	64	M.	1	..	Number 7, ...		Fatally injured by concussion from explosion of gas.
		Ignotz Washelefski, ..	Polish, ...	Miner, ...	26	M.	1	2			Fatally burned by explosion of gas.
		Edward Zvolinski, ...	Polish, ...	Laborer, ...	36	S.	....	..			Fatally burned by explosion of gas.
Aug.	14	John Adrozak, ...	Polish, ...	Driver, ...	17	S.	....	....	Number 5, ...		Fatally squeezed between derailed car and prop at face of chamber.
	20	Joe Wilkes, ...	Polish, ...	Miner, ...	27	M.	1	...	Alden, ...		Fatally injured by delayed blast in gangway.
Sept.	15	Ignotz Yourgin, ...	Lithuanian,	Miner, ...	36	M.	1	2	Salem, ...		Killed by fall of roof while removing pillars at face of chamber.

TABLE 4.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Sept.	25	James McLaughlin, ..	American, ..	Brakeman, ..	26	S.	....	....	Truesdale, ...	Luzerne, ...	Killed by timber falling on him when dislodged by derailed car.
	27	Max Covitz, ...	German, ...	Laborer, ...	52	M.	1	5	Truesdale, ...		Fatally injured by fall of rock at face of airway.
Oct.	9	John Ginginski.	Polish, ...	Laborer, ...	18	S.	....	....	Number 6.		Killed by fall of roof at face of place while removing pillars.
	21	Albert Titus, ...	English, ...	Chute tender,	20	S.	....	....	Salem, ...		Fatally injured by being caught in revolving shaft. Outside.
Nov.	7	Charles Reich, ...	German, ...	Shaftman, ..	48	M.	1	4	Auchincloss, ...		Killed by fall of part of concrete while repairing cage.
		John Englehart, ...	German, ...	Shaftman, ..	37	M.	1	6			Killed by fall of part of concrete while repairing cage.
Dec.	8	James Evans, ...	American, ..	Footman, ...	23	S.	....	....	Truesdale, ...		Killed by runaway car at foot of slope.
	8	Andrew Seletski, ...	Slavonian, ..	Miner, ...	26	M.	1	2	Number 5, ...		Killed by fall of rock at face of chamber.
		Andrew Yorshack, ..	Russian, ...	Miner, ...	36	M.	1	5	Truesdale, ...		Killed by fall of coal in crosscut.
	16	Stanley Bednarek, ..	Polish, ...	Motorman, ..	21	S.	....	....	Truesdale, ...		Killed by fall of roof when car jumped track and knocked out timber.
	19	Peter Mykolichik, ...	Polish, ...	Laborer, ...	22	S.	....	....	Number 5, ...		Killed by fall of roof.
	22	Joe Vingle, ...	Lithuanian,	Laborer, ...	52	S.	....	....	Wanamie, ...		Killed by fall of roof on 8 tunnel while going out of mine.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	2	Leslo Kataco, ...	Hungarian, .	Miner, ...	32	M.	West End, ...	Luzerne, ...	Leg broken by fall of coal at face of chamber.
	22	Anolf Albins, ...	Italian, ...	Miner, ...	34	S.	Wanamie, ...		Head and body injured by delayed blast.
	23	Thomas Griffiths, ...	Welsh,......	Runner, ...	31	S.	Number 5, ...		Skull fractured. The several persons here mentioned were coming up No. 4 slope on trip of empty cars, when in some manner the clevice by which the rope was attached to cars broke or came open allowing the cars to run back.
		John Conroy, ...	American, ..	Pumpman, ...	34	M.			Skull fractured.
		Thomas Beese, ...	English, ...	Fire boss, ...	52	M.			Body bruised.
		Frank Swida, ...	Polish,......	Laborer, ...	21	S.			Head and back injured.
		Daniel T. Richards, ..	Welsh,......	Fire boss.	52	M.			Head and back injured.
		Thomas Cooke, ...	English, ...	Fire boss, ...	31	M.			Head cut.
		John D. Evans, ...	Welsh,......	Fire boss, ...	44	M.			Toes smashed.
Feb.	28	Peter Maclowski, ...	Polish,......	Laborer, ...	27	S.	Wanamie, ...		Arm and leg broken by fall of top coal at face of chamber.
March	8	Frank Nowak, ...	Polish,......	Footman, ...	21	S.	Number 5, ...		Foot smashed caught under cage at foot of shaft.
	12	Frank Goolash, ...	Italian, ...	Laborer, ...	19	S.	Salem, ...		Body and arm injured by runaway car on chamber road.
	13	Leonard Hereshinski,.	Polish,......	Laborer, ...	46	M.	Number 7, ...		Injured by slide of rock in chamber.
	28	Barney Shiesko, ...	Polish,......	Miner, ...	23	M.	Number 7, ...		Ankle fractured by fall of coal in working place.
April	2	Andrew Goshmsky, ..	Polish,......	Miner, ...	42	M.	Wanamie, ...		Leg broken by falling down pitch chamber.
	3	Mike Vovorsak, ...	Slavonian, ..	Miner, ...	24	M.	West End, ...		Leg broken by derailed car in chamber.
	14	Walter Trynoski, ...	American, ..	Footman, ...	21	S.	Wanamie, ...		Leg broken by fall of coal at face of slope.
	15	Leo Poshinski, ...	American, ..	Chute tender, ...	17	S.	Number 5, ...		Hip dislocated by falling on revolving screen. Outside.
	23	Joseph Zavatski, ...	Polish,......	Miner, ...	38	S.	Number 6, ...		Arm broken by fall of rock at face of chamber.
	28	Wladislaw Grotkoshi,	Polish,......	Laborer, ...	27	M.	Number 5, ...		Leg broken by fall of rock in chamber.
May	20	Louis Ramlow, ...	Polish,......	Miner, ...	36	M.	Number 7, ...		Skull fractured by flying coal from premature blast.

TABLE 5.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
May	24	Konstine Motardi,	Tyrolean,	Laborer,	23	S.	Number 5,	Luzerne,	Hand smashed under car.
	26	David J. Williams,	Welsh,	Bratticeman,	27	M.	Truesdale,		Head and body injured by concussion from explosion of gas.
June	21	Mike Leggett,	Polish,	Miner,	24	S.	Wanamie,		Head injured by fall of rock at face of chamber.
July	8	Charles Pacnefski,	Polish,	Miner,	38	M.	Number 5,		Back bruised by fall of rock at face of chamber.
	11	Jacob Coppi,	Italian,	Miner,	31	M.	West End,		Leg broken by fall of rock at face of chamber.
	21	Adam Zelenski,	Polish,	Laborer,	22	S.	Number 6,		Leg broken by fall of rock at face of chamber.
	25	Frank Kempski,	Polish,	Miner,	48	M.	Salem,		Bone in shoulder broken by fall of rock at face of chamber.
	28	Frank Morey,	Italian,	Miner,	22	S.	West End,		Two ribs broken between prop and car on gangway.
Aug.	30	Joseph Rossi,	Italian,	Laborer,	24	S.	Number 6,		Leg fractured by fall of coal at face of chamber.
Sept.	6	Stanley Switlik,	Polish,	Laborer,	30	S.	Number 6,		Leg fractured by fall of rock at face of chamber.
	12	Anthony Gamboshing,	Polish,	Laborer,	33	M.	Wanamie,		Hip dislocated by fall of coal at face of chamber.
	18	Peter Lipska,	Slavonian,	Miner,	32	M.	Number 5,		Leg, head and face cut by flying coal from blast.
	20	Teofil Yamacofski,	Polish,	Laborer,	52	M.	West End,		Shoulder fractured by car on chamber road.
Oct.	17	Joseph Kulvitus,	Lithuanian,	Miner,	51	S.	Wanamie,		Collar bone broken by fall of slate in working place.
Nov.	5	John Shott,	Polish,	Laborer,	29	M.	West End,		Arm broken by derailed car on plane.
	7	Barney Blokus,	Polish,	Footman,	18	S.	Number 7,		Elbow fractured by derailed car on slope.
	29	Charles Muscavitz,	Polish,	Company man,	23	S.	Number 5,		Body squeezed between car and pulley. Outside.
Dec.	1	Wadislaw Rovinski,	Polish,	Laborer,	32	M.	West End,		Leg broken while blocking car at face of chamber.
	4	Lawrence Citkowski,	Polish,	Miner,	29	M.	Truesdale,		Back injured by fall of coal at face of chamber.

Dec.	13	Anthony Moscall, ...	Polish, ...	Laborer, ...	48	M.	Number 7.	Luzerne, ...	Leg broken by fall of coal at face of chamber.
	15	Zigmund Adamofski, ..	Polish, ...	Laborer, ...	29	M.	Number 6, ...		Leg broken sliding down chamber chute.
	19	John Wytosick, ...	Polish, ...	Laborer, ...	40	M.	Wanamie, ...		Back and legs injured by fall of coal at face of chamber.
		Wadiel Ushinski, ...	Polish, ...	Miner, ...	48	M.	Number 5, ...		Leg broken by runaway car on airway road.
	20	Clarence Deets, ...	American, ..	Laborer, ...	19	S.	Wanamie, ...		Leg broken falling from wagon. Outside.
	22	John Matulefski, ...	Polish, ...	Laborer, ...	24	S.	Number 7, ...		Leg broken by piece of coal rolling on him at face of chamber.

CONDITION OF COLLIERIES

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Auchincloss Colliery.—Ventilation, drainage and condition as to safety good.

Bliss and Truesdale Collieries.—Ventilation good; drainage fair; condition as to safety good.

SUSQUEHANNA COAL COMPANY

Numbers 5 and 6 Collieries.—Ventilation and drainage fair; condition as to safety good.

No. 7 Colliery.—Ventilation fair; drainage and condition as to safety good.

WEST END COAL COMPANY

West End Colliery.—Ventilation and drainage fair; condition as to safety good.

LEHIGH AND WILKES-BARRE COAL COMPANY

Wanamie Colliery.—Ventilation and drainage fair; condition as to safety good.

ALDEN COAL COMPANY

Alden Colliery.—Ventilation and condition as to safety good; drainage fair.

E. S. STACKHOUSE COAL COMPANY

Salem Colliery.—Ventilation and drainage fair; condition as to safety good.

IMPROVEMENTS

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Auchincloss Colliery.—Steel supports have been erected on the main haulage road, No. 1 shaft, to replace timber, reducing to a great extent the possibility of danger to the employes in this section of the mine.

A rock slope has been driven from the Ross to the Red Ash seam, No. 2 shaft. A rock slope has been sunk from the top Ross vein to the bottom Ross vein, No. 1 shaft. Second openings and ventilating tunnels will soon be provided for these slopes.

No. 6 slope has been sunk from the Mills to the Hillman vein, and will be connected to the Baltimore vein.

A rock tunnel is now being driven from the Twin to the George vein.

Bliss Colliery.—A ventilating shaft has been sunk from the surface to the Baltimore vein, upon which will be installed a twenty foot multi-blade ventilating fan, erected by the Vulcan Iron Works.

No. 7 tunnel and its second openings are now being extended from the Baltimore to the Mills vein.

A rock slope is being driven through fault, west of No. 7 tunnel, to the Ross vein.

The entrance to the Espy tunnel section has been made fireproof by removing all timber sets, cribbing, et cetera, and erecting side walls and I beams.

SUSQUEHANNA COAL COMPANY

Colliery No. 5.—49 new steel-body mine cars were added to equipment.

81 sets of steel timber were placed in No. 8 tunnel.

No. 21 plane in No. 2 shaft was driven 78 yards.

For protection against fire about the colliery an Ajax chemical fire engine was added to equipment.

Mills slope in No. 4 slope was driven 48 yards and completed.

A new No. 46 tunnel from Mills to Mills seam in No. 4 slope was driven 83 yards.

A new No. 47 tunnel from Forge to Cooper seam in No. 4 slope was driven 68 yards.

A new 14 by 8 by 13 horizontal piston pump was installed in the Hillman slope in No. 2 shaft.

The head of No. 4 slope, which was originally wood, was made fireproof with concrete and steel. There is no wooden timber in this slope within 800 feet of the head.

A new Telephone Exchange was installed in the supply store. The exchange is connected with all openings about Nos. 5 and 7 Collieries and an operator is on duty from 6 a. m. to 6 p. m. daily.

Commenced the building of a new steam line from Colliery No. 7, new Babcock and Wilcox boilers, to Black Hill, Lee, Ross and No. 1 slope. This line will be 15 inches for a distance of 2,200 feet and 5 inches for a distance of 4,300 feet.

No. 4 slope in No. 4 shaft was driven 29 yards and completed.

Colliery No. 6.—Installed in the power house a 20 by 24 by 7 inch R. H. Hamilton engine and Westinghouse generator.

Added to equipment 51 steelbody mine cars and a 10 by 16 inch tank locomotive. The locomotive hauls the coal between No. 7 shaft and the breaker.

No. 22 tunnel was driven 52⅓ yards and completed.

No. 11 slope in No. 7 shaft was driven 78 yards and completed.

11 sets of steel timber were placed in pump house at foot of No. 6 shaft.

No. 22 tunnel outlet was driven 190 yards.

A new 10 by 5 double inlet exhaust mine fan was installed to ventilate No. 7 shaft workings.

An electric pump was installed in No. 13 slope, No. 1 drift.

Colliery No. 7.—Placed in breaker 7 spiral pickers. In March commenced the erection of 4 batteries, 1818 horsepower Babcock and Wilcox boilers. This plant will furnish steam for the operation of Black Hill, Lee, Ross and No. 1 slope, replacing the old cylinder boilers now located at No. 2 slope, Lee and Ross.

New rock plane in north shaft was driven 86 yards and completed.

No. 31 slope in south shaft was driven 100 yards.

Installed in No. 19 slope in south shaft a pair of 10 by 12, 50 horsepower double cylinder friction drum hoisting engines.

Placed in No. 7 plane in north shaft 33 sets of steel timber.

An airway, top split of Mills, north shaft, was driven 132 yards,

LEHIGH AND WILKES-BARRE COAL COMPANY

Wanamie Colliery. Inside: Extended No. 26 tunnel from Ross to Baltimore; No. 30 tunnel from Cooper to Hillman; No. 35 tunnel from top to bottom Baltimore; tunnel from Kidney to Kidney, No. 8 tunnel west; No. 34 tunnel from Hillman to Kidney; No. 31 tunnel from Kidney to Abbott; Nos. 32 and 33 tunnels from top to bottom Baltimore; No. 36 tunnel from Ross to Baltimore.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the High School Building, Nanticoke, April 22 and 23. The Board of Examiners was composed of Joseph J. Walsh, Mine Inspector; F. H. Kohlbraker, Superintendent; Frank Kettle and Joseph Dzialdowski, Miners.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Frank Kettrick, Robert C. Davis, Benjamin Davies, Edwin C. Curtis, Nanticoke; James Bryan, Alden; David M. Phillips, Glen Lyon; Gaza F. Kaiser, Shickshinny.

ASSISTANT MINE FOREMEN

Rhys Evans, Thomas J. Evans, Murray S. Grant, Francis Higgins, David G. Jones, Edgar Jones, John Joseph Gruyger, Matthew Lacey, Thomas Millington, Thomas Murphy, Joseph Maza, John Palenchar, Herbert Swales, James Thompson, Albert Turley, Ernest E. Turner, John Wadzinski, Nanticoke; Edward C. Barrett, William H. Craig, Frank Bizenski, Fred Horlacher, John J. McGeady, Thomas W. Morgan, Thomas Ira Morris, James Phillips, Wanamie; John W. Bryan, James G. Jeffries, Fred Morgan, Alden; Martin Considine, Wilkes-Barre; Thomas Farrall, Richard Gill, Parsons; Hertz H. Harter, Mocanaqua; John Matusavage, Bolish Mashinski, Glen Lyon; George W. Reng, Shickshinny; Thomas Thomas, Shamokin; David J. Williams, Warrior Run.

ELEVENTH DISTRICT

LUZERNE COUNTY

Hazleton, Pa., February 18, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspectors of Mines for the Eleventh Anthracite District, for the year ending December 31, 1913.

Respectfully submitted,

DAVID J. RODERICK,
Inspector.

SUMMARY OF STATISTICS

Number of collieries,	21
Number of mines,	80
Number of mines in operation,	78
Number of tons of coal shipped to market,	5,071,327
Number of tons used at mines for steam and heat,	670,108
Number of tons sold to local trade and used by employes,	134,335
Number of tons produced,	5,875,770
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	7,432
Number of persons employed outside,	3,670
Number of fatal accidents inside of mines,	20
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	44
Number of non-fatal accidents outside,	18
Number of tons of coal produced per fatal accident inside,	293,788
Number of tons produced per fatal accident outside,	1,958,590
Number of tons produced per fatal accident inside and outside,	255,468
Number of persons employed per fatal accident inside,	372
Number of persons employed per fatal accident outside,	1,223
Number of persons employed per fatal accident inside and outside,	483
Number of persons employed per non-fatal accident inside,	169
Number of persons employed per non-fatal accident outside,	204
Number of persons employed per non-fatal accident inside and outside,	179
Number of wives made widows,	14
Number of children made orphans,	40
Number of steam locomotives used inside of mines,	15
Number of steam locomotives used outside,	76
Number of compressed air locomotives used inside,	11
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	28
Number of electric motors used outside,	....
Number of fans in use,	52
Number of furnaces in use,	1
Number of gaseous mines in operation,	28
Number of non-gaseous mines in operation,	50
Number of new mines opened,	....
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
G. B. Markle Company,	1,451,311
Lehigh Valley Coal Company,	1,064,952
Coxe Brothers and Company, Incorporated,	935,716
Pardee Brothers and Company, Incorporated,	637,561
A Pardee and Company,	586,597
C. M. Dodson and Company,	393,325
Harwood Coal Company,	176,394
Upper Lehigh Coal Company,	171,510
J. S. Wentz and Company,	142,260
Harleigh Brookwood Coal Company,	109,963
M. S. Kemmerer and Company,	98,931
Hazle Mountain Coal Company,	97,188
Wolf Coal Company,	6,505
Thomas R. Reese and Son,	3,557
Total,	5,875,770

Production by Counties

Luzerne,	5,867,081
Carbon,	8,689
Total,	5,875,770

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
G. B. Markle Co.,	3	......	3	5	1	6	483,770	290,262	1,636	600	2,236	545	....	327	600
Lehigh Valley Coal Co.,	5	......	5	10	1	11	212,991	106,495	1,657	725	2,382	331	....	166	725
Coxe Brothers and Co., Inc.,	......	2	2	2	8	10	....	467,858	857	478	1,335	....	239	429	60
Pardee Brothers and Co., Inc.,	......	......	......	3	......	3	....	212,520	730	399	1,129	....	....	243	....
A. Pardee and Co.,	2	1	3	10	......	10	293,299	58,660	1,019	505	1,524	510	505	102	....
C. M. Dodson and Co.,	2	......	2	4	1	5	196,663	98,331	490	254	744	245	....	123	254
Harwood Coal Co.,	......	......	......	2	......	2	....	88,197	302	149	451	....	....	151	....
Upper Lehigh Coal Co.,	......	......	......	......	1	1	....	....	92	142	234	....	....	....	142
J. S. Wentz and Co.,	1	......	1	2	4	6	142,260	71,130	150	123	273	150	....	75	31
Harleigh Brookwood Coal Co.,	3	......	3	2	1	3	36,654	54,981	181	102	283	60	....	91	102
M. S. Kemmerer and Co.,	1	......	1	1	......	1	98,931	98,931	143	101	244	143	....	143	....
Hazle Mountain Coal Co.,	1	......	1	3	1	4	97,188	32,396	160	85	245	160	....	53	85
Wolf Coal Co.,	2	......	2	......	......	......	3,252	....	9	4	13	5	....	....	....
Thomas R. Reese and Son,	......	......	......	......	......	......	....	....	6	3	9	....	....	....	....
Totals and averages for district,	20	3	23	44	18	62	293,788	133,540	7,432	3,670	11,102	372	1,223	169	204

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	2	....	1	....	....	1	1	....	....	....	....	1	6	30.00
Falls of slate,	....	....	....	1	....	1	....	1	2	....	....	....	5	25.00
Falls of roof,	....	....	....	....	....	1	....	....	....	....	....	....	1	5.00
Mine cars,	....	1	....	....	....	1	....	....	2	1	....	....	5	25.00
Blasts, premature and otherwise,	....	....	....	....	....	1	1	....	....	....	....	....	2	10.00
Struck by car wheel,	....	....	....	....	1	....	....	....	....	....	....	....	1	5.00
Totals,	2	1	1	1	1	5	2	1	4	1	....	1	20	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	....	....	....	....	1	1	33.33
Explosions of powder,	....	....	....	....	....	....	....	....	2	....	....	....	2	66.67
Totals,	....	....	....	....	....	....	....	....	2	....	....	1	3	100.00
Grand totals inside and outside,	2	1	1	1	1	5	2	1	6	1	....	2	23	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	2	....	1	....	....	....	....	1	....	1	....	1	6	13.63
Falls of slate,	....	1	....	....	....	....	1	....	3	2	....	....	7	15.91
Falls of roof,	....	....	....	....	....	1	1	....	....	....	1	....	3	6.82
Mine cars,	....	1	1	1	1	....	1	....	1	3	2	3	14	31.82
Explosions of gas,	....	....	....	....	1	....	....	....	....	....	....	2	3	6.82
Explosions of powder and dynamite,	....	....	1	....	....	....	....	2	....	....	....	....	3	6.82
Blasts, premature and otherwise,	....	....	....	....	....	1	....	....	....	....	1	1	3	6.82
By jumping,	....	....	1	....	....	....	....	....	....	....	....	....	1	2.27
Cut by adz,	....	....	....	....	....	....	....	....	....	1	....	....	1	2.27
Mules,	....	....	....	....	1	....	....	....	....	....	....	....	1	2.27
Struck by timber,	....	....	....	....	....	....	....	....	....	....	1	1	2	4.55
Totals,	2	2	4	1	3	2	3	3	4	7	5	8	44	100.00
Causes of Accidents Outside														
Cars,	1	1	....	....	1	1	1	....	2	....	....	....	7	38.89
Machinery,	....	1	2	....	....	....	....	....	....	....	....	....	3	16.66
By falling,	....	....	....	....	....	....	....	....	....	1	....	3	4	22.22
Scalded by steam,	....	....	....	....	....	....	....	....	....	1	....	....	1	5.56
Burned by hot tar,	....	....	....	1	....	....	....	....	....	....	....	....	1	5.56
Struck by piece of iron,	1	....	....	....	....	1	....	....	....	....	....	....	2	11.11
Totals,	2	2	2	1	1	2	1	....	2	2	....	3	18	100.00
Grand totals inside and outside,	4	4	6	2	4	4	4	3	6	9	5	11	62	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	....	....	....	....	3	2	1	2	....	....	1	10
Miners' laborers,	1	....	1	1	1	2	....	....	1	....	....	....	7
Drivers and runners,	....	....	....	....	....	....	....	....	....	1	....	....	1
Patchers,	....	1	....	....	....	....	....	....	....	....	....	....	1
Hitchers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	2	1	1	1	1	5	2	1	4	1	....	1	20
Outside													
Chargemen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Laborers,	....	....	....	....	....	....	....	....	1	....	....	1	2
Totals,	....	....	....	....	....	....	....	....	2	....	....	1	3
Grand totals inside and outside,	2	1	1	1	1	5	2	1	6	1	....	2	23

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	....	....	....	....	1	....	....	....	1	....	1	....	3
Miners,	1	....	1	....	....	1	2	3	2	5	2	3	20
Miners' laborers,	1	1	2	....	....	1	....	....	1	1	1	1	9
Drivers and runners,	....	1	....	1	1	....	....	....	....	....	....	2	5
Doorboys and helpers,	....	....	....	....	1	....	1	....	....	....	....	....	2
Pumpmen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Loaders,	....	....	....	....	....	....	....	....	....	....	1	....	1
Patchers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Motormen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Oilers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	2	2	4	1	3	2	3	3	4	7	5	8	44
Outside													
Foremen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Machinists,	....	....	....	....	....	....	....	....	....	1	....	....	1
Switchmen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Blacksmiths and carpenters,	1	....	....	1	....	....	....	....	....	....	....	....	2
Loaders,	....	....	....	....	....	....	....	....	....	....	....	1	1
Slate pickers (boys),	....	....	....	....	....	....	....	....	....	1	....	....	1
Trackmen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Oilers,	....	1	....	....	....	....	....	....	....	....	....	....	1
Hitchers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Drivers,	....	....	....	....	1	....	....	....	....	....	....	....	1
Jig runners,	....	....	1	....	....	....	....	....	....	....	....	....	1
Cranemen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Patchers,	....	....	....	....	....	1	1	....	....	....	....	....	2
Laborers,	....	....	....	....	....	1	....	....	1	....	....	1	3
Totals,	2	2	2	1	1	2	1	....	2	2	....	3	18
Grand totals inside and outside,	4	4	6	2	4	4	4	3	6	9	5	11	62

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	....	....	....	....	....	....	3	1	....	....	4
German,	....	....	....	....	....	....	....	....	....	....	....	1	1
Polish,	....	1	....	1	1	2	1	1	1	....	....	....	8
Hungarian,	....	....	....	....	....	....	....	....	2	....	....	....	2
Italian,	....	....	1	....	....	1	....	....	....	....	....	....	2
Slavonian,	1	....	....	....	....	1	1	....	....	....	....	1	4
Lithuanian,	....	....	....	....	....	1	....	....	....	....	....	....	1
Austrian,	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals,	2	1	1	1	1	5	2	1	6	1	....	2	23

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	2	....	2	1	3	2	....	1	1	4	1	3	20
German,	....	1	....	....	1	....	1	....	....	....	1	....	4
Polish,	2	1	1	....	....	1	....	1	....	2	2	4	14
Hungarian,	....	....	....	....	....	....	....	....	2	....	....	....	2
Italian,	....	....	1	....	....	1	2	....	1	1	1	....	7
Slavonian,	....	2	2	1	....	....	1	....	....	2	....	4	12
Lithuanian,	....	....	....	....	....	....	....	1	....	....	....	....	1
Austrian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Arabian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	4	4	6	2	4	4	4	3	6	9	5	11	62

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
G. B. Markle Co.															
Jeddo No. 4 Colliery:															
Jeddo No. 4, ...	Slope,.....	Gaseous, ..	3 Fans,	25	7.10	7.4	60	2.3	Guibal, ...	Steam,....	4	39,000	37,000	46,500	100
				16	4.6	4.9	75	1.			4	32,300	28,000	44,700	95
				16	5.0	5.0	75	1.			2	31,800	20,500	44,500	90
Jeddo No. 4, ...	Shaft, ...	Non-gas., .	Fan, ...	16	4.6	4.8	82	1.			3	45,000	40,000	49,500	80
Ebervale Colliery:															
Ebervale, ...	Slope,.....	Gaseous, ..	2 Fans,	10	3.1	2.7	133	.9			2	18,520	11,448	17,121	36
				16	4.6	4.7	97	1.8			7	53,924	23,000	53,722	150
Jeddo No. 7 Colliery:															
Jeddo No. 7, Primrose and Holmes, ...	Slope,.....	Non-gas., .	Fan, ...	16	4.6	4.8	50	.6	Guibal, ...	Electricity,	2	37,500	25,000	39,000	75
Jeddo No. 7, Mammoth and Wharton, ...	Slope,.....	Non-gas., .	Natural, ..	.....	......	......	......	......	....	....	1	10,000	7,700	5,000	28
Highland No. 5 Colliery:															
Highland No. 5, ...	Slope,.....	Gaseous,	Fan, ...	16	4.6	4.8	100	1.9	Guibal, ...	Steam,......	3	45,000	18,600	46,000	46
			Natural, ..	......	......	......	......	......	....	....	2	41,080	27,000	46,200	97
Highland Nos. 8, 9, 10,	Slope,.....	Non-gas., .	2 Fans,	7	3.8	1.6	100	1.0	Guibal, ...	Steam,......	3	27,805	18,070	33,070	31
				16	4.5	4.8	100	1.9	Guibal, ...	Steam,......	3	35,000	19,500	45,000	68
Highland No. 2 Colliery:															
Highland No. 1, ...	Slope,.....	Gaseous, ..	Natural, ..	......	......	......	......	......	....	....	3	37,000	33,900	41,000	90
Highland No. 2, Buck Mountain, ...	Slope,.....	Gaseous,	Natural, ..	......	......	......	......	......	....	....	3	27,000	26,000	29,000	80
			Fan, ...	16	4.10	4.10	70	.8	Guibal, ...	Steam,......	1	10,000	9,300	11,000	26
Highland No. 6, ...	Slope,.....	Non-gas., .	Fan, ...	16	4.6	4.9	90	1.	Guibal, ...	Steam,......	5	64,500	45,000	76,000	148

Lehigh Valley Coal Co.															
Hazleton No. 1 Colliery:															
Hazleton No. 1, ...	Slope, ...	Gaseous, ..	Fan, ...	20	6.	6.	62	.80	Guibal, ...	Steam, ...	10	79,713	30,602	81,153	109
Hazleton No. 8, ...	Slope, ...	Gaseous, ..	2 Fans,	16	4.	4.6	50	.65	Guibal, ...	Steam, ...	5	32,348	17,749	37,848	58
				16	5.	5.6	55	.35	Guibal, ...	Steam, ...	*	....	....	....	......
Haleton Shaft Colliery:															
Hazleton Shaft, ...	Shaft, ...	Gaseous, ..	Fan, ...	20	7.	6.	65	.55	Guibal, ...	Steam, ...	10	115,800	40,800	135,100	198
Hazleton No. 3, ...	Slope, ...	Gaseous, ..	Fan, ...	17	5.	6.	65	.50	Guibal, ...	Steam, ...	5	60,200	30,900	65,300	77
Hazleton No. 5, ...	Slope, ...	Gaseous, ..	Fan, ...	14	4.9	4.	98	.55	Guibal, ...	Steam, ...	6	53,200	44,500	60,400	114
Stockton No. 2, ...	Slope, ...	Non-gas., .	Fan, ...	20	6.9	4.6	40	.55	Guibal, ...	Electricity,	5	34,000	30,000	35,000	22
Stockton No. 7, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	2	19,500	13,300	20,500	39
Spring Brook Colliery:															
Spring Brook No. 1, ..	Slope, ...	Gaseous, ..	Fan, ...	16	4.	4.	60	.30	Guibal, ...	Steam, ...	4	37,000	27,500	37,500	84
Spring Brook No. 2, ..	Slope, ...	Gaseous, ..	Fan, ...	14	4.9	4.	70	.30	Guibal, ...	Electricity,	4	49,500	33,000	50,700	118
Spring Mountain Colliery:															
Spring Mountain No. 4,	Slope, ...	Non-gas., .	Fan, ...	20	6.9	4.6	40	.55	Guibal, ...	Steam, ...	3	49,500	39,800	51,000	65
Coxe Brothers and Co., Inc.															
Drifton Colliery:															
Drifton No. 1, ...	Slope, ...	Non-gas., .	Fan, ...	16	4.	4.	60	......	Guibal, ...	Steam, ...	8	57,000	57,000	63,000	83
Drifton No. 2, ...	Slope, ...	Gaseous, ..	2 Fans,	20	4.	5.6	80	......	Guibal, ...	Steam, ...	8	162,000	49,000	166,200	84
				17	4.	4.	80	......							
Eckley Colliery:															
Eckley No. 1, ...	Slope, ...	Non-gas.	Natural, ..	......	......	......	......	......	....	....	3	14,200	10,300	18,100	8
Eckley No. 2, ...			Natural, ..	......	......	......	......	......	....	....	3	30,000	14,000	32,400	29
Eckley No. 6, ...			Fan, ...	20	4.	5.6	80	......	Guibal, ...	Steam, ...	3	19,900	15,700	22,000	34
Eckley No. 10, ...			Natural, ..	......	......	......	......	......	....	....	4	51,000	34,000	51,500	44
Buck Mountain Colliery:															
Buck Mountain No. 11,	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	3	15,500	11,700	17,000	37
Deringer Colliery:															
Deringer, ...	Drift, ...	Gaseous, ..	Fan, ...	20	6.	5.6	90	......	Guibal, ...	Steam, ...	8	67,950	66,500	67,950	110
Gowen Colliery:															
Gowen Nos. 1 and 3, ..	Tunnel, ...	Gaseous, ..	Fan, ...	16	4.	4.	100	......	Guibal, ...	Steam, ...	8	63,840	42,615	64,350	139
Gowen No. 4, ...	Slope, ...	Gaseous, ..	Fan, ...	20	7.	6.	95	......	Guibal, ...	Steam, ...	7	53,600	36,800	64,500	64
Tomhicken Colliery:															
Tomhicken, ...	Drift, ...	Non-gas., .	Furnace, ..	......	......	......	......	......	....	....	2	16,200	9,200	17,100	43
Pardee Brothers and Co., Inc.															
Lattimer Colliery:															
Lattimer No. 1, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	*	....	....	....	20
Lattimer No. 3, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	*	....	....	....	15
Lattimer No. 8, ...	Slope, ...	Gaseous, ..	Fan, ...	4	2.6	2.6	240	......	Guibal, ...	Steam, ...	2	30,000	19,000	21,000	88
Lattimer Nos. 9 and 12,	Slope, ...	Gaseous, ..	Fan, ...	16	4.6	4.3	95	1.6	Guibal, ...	Steam, ...	8	75,000	60,000	77,000	261
Lattimer No. 11, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	*	....	....	....	60
Lattimer No. 22, ...	Slope, ...	Non-gas., .	Fan, ...	6	3.25	1.42	150	1.	Guibal, ...	Steam, ...	4	80,000	100,000	102,000	86
Lattimer No. 22, ...	Slope, ...	Non-gas., .	Fan, ...	8	3.23	1.67	145	......	Sturtevant,	Steam, ...					
Lattimer No. 24, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	*	....	....	....	35
Lattimer No. 26, ...	Slope, ...	Non-gas., .	Fan, ...	6	3.25	1.42	195	1.	Guibal, ...	Electricity,	2	30,000	25,000	35,000	26
Lattimer No. 27, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	*	....	....	....	18
Lattimer No. 17, ...	Shaft, ...	Gaseous, ..	Fan, ...	6	3.25	1.42	195	1.	Guibal, ...	Electricity,	4	40,000	33,000	41,000	119

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*Robbing. No air measurements taken.

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
A. Pardee and Co. Cranberry Colliery:															
Cranberry No. 1, ...	Slope, ...	Gaseous, ..	3 Fans,	16	4.6	4.	70	.7	Guibal, ...	Steam, ...	4	55,000	45,000	58,000	541
				16	4.6	4.	70	.6			3	41,000	38,000	42,000	
				16	5.4	4.	70	.75			4	50,000	47,000	53,000	
Cranberry Nos. 4, 8, 12,	Slope, ...	Gaseous, ..	Fan, ...	16	4.10	4.	70	.5	Guibal, ...	Steam, ...	7	55,000	35,000	57,500	90
Cranberry No. 6, ...	Slope, ...	Gaseous, ..	Fan, ...	16	4.6	4.	70	1.	Guibal, ...	Steam, ...	5	49,600	45,000	55,000	208
Cranberry Nos. 5 and 10,	Slope, ...	Gaseous, ..	Fan, ...	16	4.10	4.	70	.5	Guibal, ...	Steam, ...	6	55,000	42,000	56,000	180
C. M. Dodson and Co. Beaver Brook Colliery:															
Beaver Brook No. 5, ..	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	3	20,500	19,000	22,000	60
Beaver Brook No. 6, ..	Slope, ...	Non-gas., .	Fan, ...	16	4.6	5.	90	......	Guibal, ...	Steam, ...	2	3,000	2,500	5,000	6
Beaver Brook No. 10, ..	Slope, ...	Non-gas., .	Fan, ...	16	4.6	5.	90	......	Guibal, ...	Steam, ...	4	50,000	41,500	69,000	167
Beaver Brook No. 11, ..	Slope, ...	Gaseous, ..	Fan, ...	16	4.6	5.	80	......	Guibal, ...	Steam, ...	4	25,000	22,000	27,000	108
Beaver Brook No. 15, ..	Slope, ...	Gaseous, ..	Fan, ...	16	4.6	5.	80	......	Guibal, ...	Steam, ...	4	22,600	18,000	27,000	45
Beaver Brook No. 17, ..	Slope, ...	Non-gas., .	Natural, ..	.....	.....	......	.....	......	....	....	1	5,000	4,500	7,000	6
Harwood Coal Co. Harwood Colliery:															
Harwood No. 1, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	*	....	....	....	37
Harwood No. 5, ...	Slope, ...	Gaseous, ..	Fan, ...	16	4.6	4.3	72	.50	Guibal, ...	Steam, ...	*	....	....	....	158
Harwood No. 15, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	*	....	....	....	4
Harwood No. 16, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	*	....	....	....	20
Harwood No. 31, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	*	....	....	....	83

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*Robbing. No air measurements taken.

Upper Lehigh Coal Co.															
Upper Lehigh Colliery:															
Upper Lehigh No. 1,†	Slope, ...	Non-gas.	Fan, ...	10	3.	2.	70	......	Guibal, ...	Steam, ...	....	....	....	....	......
Upper Lehigh No. 2,†			Natural, ..	......	......	......	......	......	....	....	....	....	....	....	......
Upper Lehigh No. 5, ..			Natural, ..	......	......	......	......	......	....	....	....	....	....	....	24
Upper Lehigh No. 7, New, ...			Fan, ...	10	3.	2.	70	......	Guibal, ...	Steam, ...	*	....	....	....	20
J. S. Wentz and Co.															
Hazle Brook Colliery:															
Hazle Brook No. 1, ..	Slope, ...	Gaseous, ..	Natural,	......	......	......	......	......	....	....	4	30,000	25,000	33,000	42
Hazle Brook No. 3, ..	Slope, ...	Non-gas., .									1	10,000	8,000	11,350	18
Hazle Brook No. 5, ..	Slope, ...	Gaseous, .									4	32,000	28,000	33,000	68
Hazle Brook No. 10, ..	Slope, ...	Non-gas., .									1	10,000	9,000	11,000	13
Hazle Brook No. 12, ..	Slope, ...	Non-gas., .									2	10,000	7,500	11,100	14
Harleigh Brookwood Coal Co.															
Harleigh Colliery:															
Buck Mountain, ...	Slope, ...	Non-gas.	Fan, ...	12	3.7	3.	90	.5	Guibal, ...	Steam, ...	1	40,000	35,000	45,000	34
Fish Tail, ...			Fan, ...	7	3.6	3.	225	.5	Buffalo, ...	Electricity,	2	40,000	37,000	42,000	40
Spear Point, Wharton,			Natural, ..	......	......	......	......	......	....	....	1	20,000	18,000	22,000	50
Pond Creek Colliery:															
Pond Creek No. 7, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	.....	......	....	....	1	10,000	8,000	12,000	32
Pond Creek No. 8, ...	Slope, ...	Non-gas., .	Fan, ...	8	3.6	3.	90	.4	Buffalo, ...	Electricity,	1	15,000	12,000	16,000	25
M. S. Kemmerer and Co.															
Sandy Run Colliery:															
Sandy Run No. 2, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	......	.....	......	....	....	*	....	....	....	88
Sandy Run No. 5, ...															40
Sandy Run No. 10, ...															12
Hazle Mountain Coal Co.															
Hazle Mountain Colliery:															
Hazle Mountain No. 1,	Slope, ...	Non-gas.,	Fan, ...	16	6.	4.6	72	......	Guibal, ...	Steam, ...	3	48,400	33,050	50,000	75
Hazle Mountain No. 5,	Slope, ...	Non-gas., .	Fan, ...	16	4.	3.11	85	......	Guibal, ...	Steam, ...	2	50,000	46,930	50,500	65
Wolf Coal Co.															
Wolf Colliery:															
Wolf No. 3, ...	Slope, ...	Non-gas., .	Fan, ...	6	2.	2.	75	......	Guibal, ...	Steam, ...	1	14,000	11,000	15,000	9
Thomas R. Reese and Son															
Dusky Diamond Colliery:															
Dusky Diamond, ...	Slope, ...	Non-gas., .	Natural, ..	.....	......	......	......	......	....	....	*	....	....	....	6

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*Robbing. No air measurements taken.
†Idle.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
G. B. Markle and Co.						
Jeddo No. 4,	Luzerne,	A. B. Jessup, General Manager	Jeddo,			Lehigh Valley
Ebervale,						
Jeddo No. 7,						
Highland No. 5,						
Highland No. 2,						
Lehigh Valley Coal Co.						
Hazleton No. 1,	Luzerne,	Thomas Thomas,	Wilkes-Barre,	W. H. Davies,	Hazleton,	Lehigh Valley
Hazleton Shaft,	Luzerne,					
Spring Mountain,	Luzerne,					
Spring Brook,	Carbon,					
Spring Brook Washery,	Carbon,					
Coxe Brothers and Co., Inc.						
Drifton,	Luzerne,	Thomas Thomas,	Wilkes-Barre,	W. H. Davies,	Hazleton,	Lehigh Valley
Eckley,						
Buck Mountain,						
Deringer,						
Gowen,						
Tomhicken,						
Eckley Washery,						
Pardee Brothers and Co., Inc.						
Lattimer,	Luzerne,	George W. Barager,	Lattimer Mines,			Lehigh Valley
A. Pardee and Co.						
Cranberry,	Luzerne,	Frank Pardee,	Hazleton,			Lehigh Valley
C. M. Dodson and Co.						
Beaver Brook,	Luzerne,	John J. Turnbach,	Beaver Brook,			L. V. and C. R. R. of N. J.
Harwood Coal Co.						
Harwood,	Luzerne,	A. A. Drake, General Manager	Hazleton,			Lehigh Valley
Upper Lehigh Coal Co.						
Upper Lehigh,	Luzerne,	T. E. Snyder,	Hazleton,	C. H. Rohland,	Upper Lehigh,	C. R. R. of N. J.
J. S. Wentz and Co.						
Hazle Brook,	Luzerne,	T. E. Snyder,	Hazleton,	C. H. Rohland,	Upper Lehigh,	Lehigh Valley

Harleigh Brookwood Coal Co.						
Harleigh, Pond Creek,	Luzerne,	Frank A. Hill,	Pottsville,	I. D. Thomas,	Hazleton,	Lehigh Valley
M. S. Kemmerer and Co.						
Sandy Run,	Luzerne,	M. S. Kemmerer,	Mauch Chunk,	J. P. Powell,	Sandy Run,	C. R. R. of N. J.
Hazle Mountain Coal Co.						
Hazle Mountain,	Luzerne,	W. R. McTurk,	Philadelphia, Pennsylvania Building.	Morton McTurk,	Hazleton,	Lehigh Valley
Wolf Coal Co.						
Wolf,	Luzerne,	Joseph G. Saricks,	Freeland,			Lehigh Valley
Thomas R. Reese and Son						
Dusky Diamond,	Luzerne,	Thomas R. Reese,	Audenried,			Lehigh Valley

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
G. B. Markle Co.													
Jeddo No. 4, Ebervale,	Luzerne,	395,543	30,670	2,768	428,981	287	870	1	1	44,575	245,257	....	50
Jeddo No. 7,	Luzerne,	279,340	23,028	16,490	318,858	293	252	1	1	450	59,956	....	15
Highland No. 5,	Luzerne,	371,764	26,601	854	399,219	286	591	1	2	24,825	203,324	....	58
Highland No. 2,	Luzerne,	259,070	34,212	10,971	304,253	293	523	......	2	550	110,842	....	45
Totals,	....	1,305,717	114,511	31,083	1,451,311	......	2,236	3	6	70,400	619,379	....	168
Lehigh Valley Coal Co.													
Hazleton No. 1,	Luzerne,	212,972	20,339	60,732	294,043	242	624	......	3	13,500	204,460	....	42
Hazleton Shaft,	Luzerne,	308,175	84,350	3,737	396,262	243	927	3	5	20,325	246,823	....	33
Spring Mountain, Spring Brook,	Luzerne, Carbon,	296,216	64,539	5,203	365,958	240	809	2	3	100,750	102,650	....	56
Spring Brook Washery,	Carbon,	8,689	....	....	8,689	59	22	......	......	....	....	....	......
Totals,	....	826,052	169,228	69,672	1,064,952	......	2,382	5	11	134,575	553,933	....	131
Coxe Brothers and Co., Inc.													
Drifton,	Luzerne,	310,952	50,160	5,531	366,643	240	586	......	4	52,075	96,941	....	56
Eckley,	Luzerne,	251,978	1,473	3,436	256,887	239	245	2	2	4,300	79,922	....	47
Buck Mountain, Deringer, Gowen, Tomhicken,	Luzerne,	236,453	33,201	114	269,768	238	478	......	4	32,475	151,373	....	59
Eckley Washery,	Luzerne,	9,408	32,065	945	42,418	199	26	......	......	....	....	....	......
Totals,	....	808,791	116,899	10,026	935,716	......	1,335	2	10	88,850	328,236	....	162

Pardee Brothers and Co., Inc. Lattimer,	Luzerne,	567,748	64,000	5,813	637,561	288	1,129	......	3	600	213,664	....	80
A. Pardee and Co. Cranberry,	Luzerne,	509,486	70,080	7,031	586,597	277	1,524	3	10	21,000	387,175	....	160
C. M. Dodson and Co. Beaver Brook,	Luzerne,	361,566	31,000	759	393,325	290	744	2	5	53,125	126,850	....	66
Harwood Coal Co. Harwood,	Luzerne,	157,213	18,000	1,181	176,394	229	451	......	2	1,950	51,634	....	46
Upper Lehigh Coal Co. Upper Lehigh,	Luzerne,	151,864	17,557	2,089	171,510	270	234	......	1	8,525	46,288	....	14
J. S. Wentz and Co. Hazle Brook,	Luzerne,	116,925	24,374	961	142,260	226	273	1	6	....	38,967	....	31
Harleigh Brookwood Coal Co. Harleigh, Pond Creek,	Luzerne,	96,976	12,374	613	109,963	252	283	3	3	3,750	52,775	....	18
M. S. Kemmerer and Co. Sandy Run,	Luzerne,	84,807	13,068	1,056	98,931	237	244	1	1	....	12,980	....	24
Hazle Mountain Coal Co. Hazle Mountain,	Luzerne,	78,036	18,252	900	97,188	184	245	1	4	650	41,872	....	40
Wolf Coal Co. Wolf,	Luzerne,	6,146	359	....	6,505	264	13	2	......	....	3,266	....	6
Thomas R. Reese and Son Dusky Diamond,	Luzerne,	....	406	3,151	3,557	203	9	......	......	100	800	....	1
Grand totals,	....	5,071,327	670,108	134,335	5,875,770	......	11,102	23	62	383,525	2,477,819	....	947

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
G. B. Markle Co., ...	Luzerne, ...	......	......	33	10,300	10,300	17	5	12	55	9,925	11	13,321	8,800	5	8
Lehigh Valley Coal Co., ...		......	......	58	9,220	9,220	9	......	14	65	8,725	21	19,560	8,600	5	1
Coxe Brothers and Co., Inc.,..		......	......	49	9,375	9,375	18	6	......	52	4,855	12	14,400	8,150	1	6
Pardee Brothers and Co., Inc.,		......	......	12	4,000	4,000	10	......	2	35	4,000	2	1,900	*	......	2
A. Pardee and Co.		11	330	35	6,385	6,715	18	......	......	76	18,550	15	23,100	7,600	......	1
C. M. Dodson and Co., ...		......	......	25	3,600	3,600	2	......	......	19	1,440	9	12,100	5,750	......	2
Harwood Coal Co., ...		......	......	12	1,800	1,800	3	..	......	19	990	5	7,000	3,500	......	1
Upper Lehigh Coal Co., ...		......	......	11	2,480	2,480	7	......	......	19	2,180	3	3,200	3,200	2	1
J. S. Wentz and Co., ...		......	......	10	1,500	1,500	3	......	......	16	845	4	5,300	5,300	......	1
Harleigh Brookwood Coal Co.,		......	......	8	1,000	1,000	2	......	......	6	600	5	3,600	2,000	......	1
M. S. Kemmerer and Co., ...		......	......	4	890	890	1	......	......	8	446	2	1,420	1,420	......	......
Hazle Mountain Coal Co., ...		......	......	10	1,480	1,480	1	......	......	14	1,000	6	6,300	2,000	......	3
Wolf Coal Co., ...		......	......	2	325	325	......	......	......	3	125	1	300	300	......	......
Thomas R. Reese and Son, ...		......	......	1	125	125	......	......	......	2	60	....	....	....	......	......
Totals, ...	....	11	330	270	52,480	52,810	91	11	28	389	53,741	96	111,501	56,620	13	27

*Jeddo tunnel drainage.

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside										Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
G. B. Markle Co., ...	Luzerne, ...	8	12	6	555	539	88	35	18	53	322	1,636	1	6	28	91	49	22	10	393	600	2,236
Lehigh Valley Coal Co., ...	Luzerne, ... Carbon, ...	9	23	....	614	254	63	16	22	260	396	1,657	....	4	52	84	24	72	14	475	725	2,382
Coxe Brothers and Co., Inc., ...	Luzerne, ...	4	17	....	473	115	89	10	11	38	100	857	....	5	34	48	14	27	10	340	478	1,335
Pardee Brothers and Co., Inc., ...		2	11	2	405	135	33	1	1	51	89	730	1	4	38	55	31	18	8	244	399	1,129
A. Pardee and Co., ...		6	11	....	417	353	73	41	18	48	52	1,019	....	2	69	71	27	21	3	312	505	1,524
C. M. Dodson and Co.,		1	4	1	167	190	43	7	7	40	30	490	1	1	22	33	41	8	5	143	254	744
Harwood Coal Co., ..		1	5	....	140	109	19	....	6	17	5	302	1	3	20	21	11	4	5	84	149	451
Upper Lehigh Coal Co., ...		1	1	....	27	27	9	....	2	9	16	92	1	2	9	39	12	3	3	73	142	234
J. S. Wentz and Co.,		1	2	....	56	23	16	....	4	48	......	150	...	1	9	26	20	2	2	63	123	273
Harleigh Brookwood Coal Co., ...		2	2	....	63	49	15	5	7	28	10	181	1	2	12	11	22	7	2	45	102	283
M. S. Kemmerer and Co., ...		1	2	....	61	55	10	4	3	7	......	143	1	1	8	12	22	27	2	28	101	244
Hazle Mountain Coal Co., ...		1	2	....	50	31	18	4	5	49	......	160	1	2	6	8	6	10	2	50	85	245
Wolf Coal Co., ...		1	....	....	4	2	1	....	1	....	......	9	1	1	....	1	....	....	1	......	4	13
Thomas R. Reese and Son, ...		1	....	....	2	3	....	....	....	....	......	6	....	....	....	1	....	....	....	2	3	9
Totals, ...	....	39	92	9	3,034	1,885	477	123	105	648	1,020	7,432	9	34	307	501	279	221	67	2,252	3,670	11,102

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
G. B. Markle Co.,	Luzerne,	26	24	21	23	25	24	25	25	25	24	23	25	290
Lehigh Valley Coal Co.,	Luzerne, Carbon,	23	20	14	22	23	23	19	17	19	22	21	19	242
Coxe Brothers and Co., Inc.,	Luzerne,	23	20	14	22	23	22	18	17	19	21	21	19	239
Pardee Brothers and Co., Inc.,		25	24	23	25	23	25	24	25	25	24	23	22	288
A. Pardee and Co.,		26	23	13	22	24	25	23	24	25	25	23	24	277
C. M. Dodson and Co.,		26	24	26	24	26	25	26	16	23	26	24	24	290
Harwood Coal Co.,		22	20	17	18	19	18	20	20	18	20	18	19	229
Upper Lehigh Coal Co.,		26	21	20	22	24	25	21	20	22	23	22	24	270
J. S. Wentz and Co.,		17	16	17	18	19	20	19	19	19	20	19	23	226
Harleigh Brookwood Coal Co.,		24	20	19	13	14	19	26	23	22	25	24	23	252
M. S. Kemmerer and Co.,		22	21	13	18	20	19	19	19	21	23	20	22	237
Hazle Mountain Coal Co.,		19	14	13	16	15	15	15	16	15	15	15	16	184
Wolf Coal Co.,		25	23	16	19	26	25	21	19	21	25	23	21	264
Thomas R. Reese and Son,		20	20	11	20	15	18	19	20	20	20	10	10	203

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 9	Andrew Yoursheck,	Slavonian,	Miner,	45	M.	1	6	Pond Creek,	Luzerne,	Instantly killed by fall of coal in gangway while making repairs.
	John Pecheck,	Austrian,	Laborer,	22	S.	....	....			
Feb. 18	Joseph Kumminski,	Polish,	Patcher,	23	S.	....	....	Hazleton Shaft,		Fatally injured between top of car and roof on gangway.
March 25	Pasco Glasco,	Italian,	Laborer,	21	S.	....	....	Harleigh,		Instantly killed by fall of coal at face of robbing.
April 22	Steve Swatloski,	Polish,	Laborer,	20	S.	....	....	Spring Mountain,		Instantly killed by fall of slate on gangway near face.
May 8	Michael Linn,	Polish,	Laborer,	52	M.	1	5	Wolf,		Fatally injured by being struck by wheel from runaway car down slope.
June 13	James Marko,	Polish,	Laborer,	24	S.	....	....	Highland No. 5,		Fatally injured between buggy top and roof in breast.
14	John Woiden,	Polish,	Miner,	38	M.	1	3	Jeddo No. 7,		Instantly killed by fall of coal at face of robbing.
21	Stanley Rollins,	Lithuanian,	Miner,	55	M.	1	2	Spring Mountain,		Fatally injured by fall of slate in breast.
	Rock Formica,	Italian,	Miner,	24	M.	1	4	Beaver Brook,		Fatally injured by blast in breast caused by cutting squib.
24	Anthony Saphor,	Slavonian,	Laborer,	38	M.	1	6	Sandy Run,		Instantly killed by fall of rock while sinking slope.
July 7	Joseph Stefanik,	Polish,	Miner,	24	S.	....	....	Jeddo No. 4,		Fatally injured by blast in breast.
14	Andro Shrader,	Slavonian,	Miner,	28	M.	1	1	Hazle Brook,		Instantly killed by fall of coal from rib of gangway.
Aug. 11	John Demski,	Polish,	Miner,	58	S.	....	....	Hazle Mountain,		Instantly killed by fall of slate in breast.
Sept. 4	Frank Gladgosky,	Hungarian,	Chargeman,	38	M.	1	....	Eckley,		Fatally injured by explosion of powder on stripping. Outside.
	John Hooskie,	Hungarian,	Laborer,	35	M.	1	....			
10	August Yeager,	American,	Miner,	46	M.	1	....	Cranberry,		Fatally injured by fall of slate on gangway while making repairs.
18	Andrew Moyles,	American,	Laborer,	33	M.	1	5	Wolf,		Instantly killed by runaway car on slope when hitching staple of car broke.
20	Anthony Schulrz,	Polish,	Miner,	33	S.	....	....	Beaver Brook,		Fatally injured by fall of slate in breast.
24	John Peters,	American,	Hitcher,	26	S.	....	....	Cranberry,		Fatally injured between rib and cars at top of inside slope.
Oct. 10	John Jubin,	American,	Driver,	27	M.	1	1	Hazleton Shaft,		Instantly killed by derailed car on gangway.
Dec. 1	Frank Lipko,	Slavonian,	Miner,	24	M.	1	1	Hazleton Shaft,		Instantly killed by fall of coal in breast.
24	Philip Mader,	German,	Laborer,	46	M.	1	6	Cranberry,		Instantly killed by being run down by loaded gondola below breaker. Outside.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 3	Daniel Ferry, ...	American, ..	Hitcher, ...	21	S.	Beaver Brook, ...	Luzerne, ...	Hips squeezed between cars at bottom of plane. Outside.
14	Mike Whiteko, ...	Polish, ...	Laborer, ...	38	M.	Beaver Brook, ...		Pelvis fractured by fall of coal on gangway.
26	Levi Dreisbach, ...	American, ..	Blacksmith, ...	50	M.	Upper Lehigh, ...		Eye injured by flying piece of iron in shop. Outside.
27	Alexander Simon, ...	Polish, ...	Miner, ...	33	M.	Hazleton Shaft, ...		Skull fractured by fall of coal in breast.
Feb. 4	Connie Shade, ...	German, ...	Trackman, ...	48	M.	Harleigh, ...		Breast and leg bruised by cars. Outside.
15	George T. Houdock, ..	Slavonian, ..	Driver, ...	20	S.	Hazle Brook, ...		Knee injured by cars.
19	Anthony Tarasavish, ..	Polish, ...	Laborer, ...	20	S.	Cranberry, ...		One leg crushed and the other fractured by fall of slate in breast.
28	John Gaydosh, ...	Slavonian, ..	Oiler, ...	23	M.	Hazle Brook, ...		Arm and ribs bruised by machinery on breaker. Outside.
March 4	Andrew Luschack, ...	Slavonian, ..	Jig runner, ...	17	S.	Hazle Mountain, ...		Arm crushed by machinery on breaker. Outside.
15	James Vello, ...	Italian, ...	Miner, ...	40	M.	Harleigh, ...		Head cut and injured internally by fall of coal at face.
	Theodore Miknsh, ...	Polish, ...	Laborer, ...	22	S.	Highland No. 5, ...		Face and hands burned by explosion of powder in cross-cut.
16	John Buck, ...	American, ..	Pumpman, ...	21	S.	Beaver Brook, ...		Arm fractured and body bruised by jumping off car on slope.
18	John Cruyser, ...	Slavonian, ..	Laborer, ...	29	M.	Beaver Brook, ...		Collar bone fractured between car and door frame.
28	Teddy Roarty, ...	American, ..	Craneman, ...	30	S.	Drifton, ...		Compound fracture of both legs by chain on steam shovel. Outside.
April 3	Harry Karchner, ...	American, ..	Carpenter, ...	36	M.	Eckley, ...		Hand and wrist burned by heated tar. Outside.
28	George Tkacs, ...	Slavonian, ..	Driver, ...	31	M.	Gowen, ...		Thumb severed between sprag and car wheel while in the act of spragging.
May 6	Andrew Rondash, ...	American, ..	Driver, ...	18	S.	Spring Brook, ...	Carbon, ...	Arm fractured by being struck by a mule's head when throwing him.
17	George Wittig, ...	German, ...	Doorman, ...	64	M.	Spring Brook, ...	Carbon, ...	Back bruised by being thrown down by cars at his door.
24	Joseph Fastenelli, ...	American, ..	Driver, ...	17	S.	Hazle Brook, ...	Luzerne, ...	Back bruised by falling under car on stripping. **Outside.**

May	27	Patrick McGeehan, ..	American, ..	Assistant foreman,	35	M.	Hazleton No. 1, ...	Luzerne, ...	Face and hands burned by explosion of gas in breast.
June	21	Santo Carlitza, ...	Italian, ...	Laborer, ...	23	S.	Beaver Brook, ...		Head cut and body bruised by flying coal from blast in breast.
	24	Harry Fisher, ...	American, ..	Miner, ...	32	M.	Sandy Run, ...		Body bruised and face lacerated by fall of rock while sinking slope.
	25	Patrick Thomas, ...	American, ..	Patcher, ...	19	S.	Drifton, ...		Foot crushed by runaway timber truck. Outside.
	28	Mike Soltis, ...	Polish, ...	Laborer, ...	52	M.	Gowen, ...		Leg cut by sheet iron falling from car on which he was riding. Outside.
July	2	John Mollick, ...	Slavonian, ..	Doorboy, ...	16	S.	Hazleton No. 1, ...		Arm crushed by loaded cars on gangway.
	18	Fred Henry, ...	German, ...	Miner, ...	56	M.	Jeddo No. 7, ...		Concussion of brain by fall of rock in gangway.
	22	Toney Parnell, ...	Italian, ...	Patcher, ...	21	S.	Hazleton Shaft, ...		Two legs fractured and foot crushed by cars. Outside.
	29	Frank Glatch, ...	Italian, ...	Miner, ...	43	M.	Lattimer, ...		Skull fractured by fall of slate in breast.
Aug.	16	Peter Zankofski, ...	Lithuanian,	Miner, ...	34	M.	Cranberry, ...		Face and hands lacerated by explosion of dynamite in breast.
	27	August Split, ...	American, ..	Miner, ...	25	M.	Hazle Mountain, ...		Fingers blown off by explosion of dynamite while tamping hole.
	27	John Betoski, ...	Polish, ...	Miner, ...	36	M.	Hazle Mountain, ...		Back injured and fingers cut by fall of coal in breast.
Sept.	4	Samuel Mitka, ...	Hungarian, .	Laborer, ...	16	S.	Highland No. 5, ...		Leg lacerated by falling alongside of car. Outside.
	10	John Angove, ...	American, ..	Assistant foreman,	33	M.	Cranberry, ...		Foot crushed by fall of slate on gangway.
	18	Leacho Hyde, ...	Arabian, ...	Miner, ...	57	M.	Hazleton Shaft, ...		Back and hips bruised by fall of slate in breast.
	22	Joseph Drobyok, ...	Austrian, ..	Laborer, ...	28	M.	Harwood, ...		Ribs fractured between collar and buggy in breast.
	23	Emellio Minicozzi, ...	Italian, ...	Miner, ...	25	M.	Lattimer, ...		Leg fractured by fall of slate when standing prop in breast.
	25	Steve Baron, ...	Hungarian, .	Switchman, ...	18	S.	Eckley, ...		Body and limbs bruised by falling under locomotive. Outside.
Oct.	7	John Macisack, ...	Slavonian, ..	Slatepicker, ...	14	S.	Hazle Brook, ...		Arm fractured by falling from guy rope while playing. Outside.
	8	Valentine Nenstiel, ..	American, ..	Miner, ...	28	S.	Gowen, ...		Leg cut with adz while making a leg for set of gangway timber.
		Henry Miller, ...	American, ..	Machinist, ...	54	M.	Drifton, ...		Head and body scalded when flange blew off steam pipe. Outside.
	10	James Graham, ...	American, ..	Laborer, ...	17	S.	Harwood, ...		Arm fractured between top of car and timber on gangway.
	15	Nicholas Scintillo, ...	Italian, ...	Miner, ...	42	M.	Lattimer, ...		Leg fractured between car and standing timber on gangway.
	25	Mike Chair, ...	Polish, ...	Miner, ...	48	M.	Cranberry, ...		Hip dislocated by fall of slate in breast.
	27	George Andishan, ...	Slavonian, ..	Miner, ...	25	M.	Hazle Brook, ...		Both legs fractured by fall of coal in gangway.
		Charles Tragus, ...	American, ..	Patcher, ...	17	S.	Cranberry, ...		Foot bruised between bumpers of water tank and car.
	31	Peter Yesman, ...	Polish, ...	Miner, ...	47	M.	Cranberry, ...		Legs and hips bruised and head lacerated by fall of slate in breast.
Nov.	5	Nicholas Michael, ...	German, ...	Assistant foreman,	57	M.	Hazleton Shaft, ...		Back injured and ribs broken by derailed car on gangway.
		Orvil Williams, ...	American, ..	Loader, ...	21	M.			Back injured by derailed car on gangway.
	10	Stanley Malato, ...	Polish, ...	Laborer, ...	23	S.	Jeddo No. 4, ...		Skull fractured by fall of rock in breast.

TABLE 5.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Nov.	14	Adam Witcofsky, ...	Polish, ...	Miner, ...	30	M.	Hazle Mountain, ...	Luzerne, ...	Ankle dislocated by prop falling upon him in gangway.
	26	Frank Bushel, ...	Italian, ...	Miner, ...	23	M.	Harleigh, ...		Face and chest lacerated by blast.
Dec.	1	Mike Donish, ...	Slavonian, ..	Driver, ...	18	S.	Spring Mountain, ...		Head lacerated by flying coal from shot in breast.
		Peter Papus, ...	Slavonian, ..	Runner, ...	28	M.	Cranberry, ...		Hand injured by sprag while in the act of spragging car on run.
	2	John Lawrence, ...	Slavonian, ..	Oiler, ...	17	S.	Cranberry, ...		Head lacerated and body bruised by falling under car on gangway.
	9	Joseph Ketchnofski, ..	Polish, ...	Miner, ...	29	M.	Cranberry, ...		Head lacerated by fall of coal in breast.
		George Holessa, ...	American, ..	Motor runner, ...	19	S.	Hazleton No. 1, ...		Head injured by falling on truck.
	19	Peter Kokenda, ...	Slavonian, ..	Laborer, ...	18	S.	Hazle Brook, ...		Leg fractured by bale of hay falling on him from wagon. Outside.
	23	Anthony Wysocki, ...	Polish, ...	Miner, ...	39	M.	Highland No. 2, ...		Face and hands burned by explosion of gas in breast.
		Toney Kisciec, ...	Polish, ...	Laborer, ...	30	M.			
	24	Felix Vashalis, ...	American, ..	Coal loader, ...	19	M.	Drifton, ...		Arm fractured by falling off loaded gondola below breaker. Outside.
		Christ Miller, ...	American, ..	Mine foreman, ...	54	M.	Tomhicken, ...		Hip bruised by falling from lumber pile to tracks. Outside.
	31	John Fendrick, Jr., ..	Polish, ...	Miner, ...	40	M.	Cranberry, ...		Body bruised by prop falling on him in breast.

CONDITION OF COLLIERIES

G. B. MARKLE COMPANY

Jeddo No. 4 and Ebervale Collieries.—Ventilation, roads, drainage and condition as to safety good.

Jeddo No. 7 Colliery.—Nos. 1 and 3 Slopes: Ventilation, roads, drainage and condition as to safety good.

Highland Nos. 2 and 5 Collieries.—Ventilation, roads, drainage and condition as to safety good.

LEHIGH VALLEY COAL COMPANY

Hazleton No. 1, Hazleton Shaft, Spring Mountain and Spring Brook Collieries.—Ventilation, roads, drainage and condition as to safety good.

COXE BROTHERS AND COMPANY, INCORPORATED

Drifton, Deringer, Gowen and Tomhicken, Eckley and Buck Mountain Collieries.—Ventilation, roads, drainage and condition as to safety good.

PARDEE BROTHERS AND COMPANY, INCORPORATED

Lattimer Colliery.—Ventilation, roads, drainage and condition as to safety good.

A. PARDEE AND COMPANY

Cranberry Colliery.—Ventilation good; roads and drainage fair; condition as to safety good.

C. M. DODSON AND COMPANY

Beaver Brook Colliery.—Ventilation, roads and drainage fair; condition as to safety good.

HARWOOD COAL COMPANY

Harwood Colliery.—Ventilation, roads and drainage fair; condition as to safety good.

UPPER LEHIGH COAL COMPANY

Upper Lehigh Colliery.—Ventilation, roads, drainage and condition as to safety good.

J. S. WENTZ AND COMPANY

Hazle Brook Colliery.—Ventilation, roads and drainage fair; condition as to safety good.

HARLEIGH BROOKWOOD COAL COMPANY

Harleigh Colliery.—Buck Mountain Slope: Ventilation, roads, drainage and condition as to safety good.

Spear Point and Wharton Slopes: Ventilation fair; roads and drainage good; condition as to safety good.

Fish Tail Slope.—Ventilation, roads, drainage and condition as to safety good.

Pond Creek Colliery. — Nos. 7 and 8 Slopes: Ventilation fair; roads and drainage good; condition as to safety good.

M. S. KEMMERER AND COMPANY

Sandy Run Colliery.—Ventilation, roads, drainage and condition as to safety good.

HAZLE MOUNTAIN COAL COMPANY

Hazle Mountain Colliery.—Ventilation, roads, drainage and condition as to safety good.

WOLF COAL COMPANY

Wolf Colliery.—Ventilation, roads, drainage and condition as to safety good.

THOMAS R. REESE AND SON

Dusky Diamond Colliery.—Ventilation, roads, drainage and condition as to safety good.

IMPROVEMENTS

G. B. MARKLE COMPANY

Jeddo No. 4 Colliery.—Artesian well drilled on south side of property, 10 inches in diameter, 640 feet deep.

The powder house was moved into a depression in the ground and a protective embankment thrown up.

Tunnel No. 34 driven from Wharton vein to Wharton vein, 130 feet long, for the purpose of developing Wharton and robbing Mammoth.

Two tunnels driven from Buck Mountain vein to Gamma vein, 135 feet long, for the purpose of developing Gamma vein.

Waterway driven from Wharton slope to point near foot of main No. 4 Mammoth slope from draining bottom of latter.

Changed location of a 16-foot mine fan on account of robbing operations, and compounded the engine.

Completely remodelled the east and west side of the breaker, installing new machinery throughout. Spiral separators, slow speed rolls, plunger jigs, non-breaking chutes, crank-driven shaker screens and other modern devices are used.

Erected an engine house for the east side machinery, and installed a 150-horsepower hoisting engine, a 200-horsepower breaker engine and a 10 by 18 by 10-inch duplex pump. Also installed a 7-ton Jeffrey ball-bearing electric locomotive.

Erected a 30,000-ton stock coal plant, equipped with conveyor for stocking, and a 12-inch bore hole to a Mammoth vein breast for reloading coal into mine cars on gangway below for transportation to and re-screening in the breaker.

Installed a No. 20 Marion steam shovel for picking up bank coal.

Installed an ash flushing system in the boiler house for flushing ashes into the Buck Mountain vein workings through a bore hole. An 8-inch flush hole was drilled 294 feet deep to flush these boiler ashes. Four breasts under the breaker have been filled.

The flushing of Mammoth breasts with breaker refuse was continued on a large scale. Large refuse is crushed by jaw crusher and smooth rolls, and a large additional hammer crusher is being installed.

Completed the building of ten double dwelling houses at West Oakdale village and rebuilt part of Oakdale village damaged by robbing operation.

Installed a 5 by 6-inch and a 3½ by 4-inch triplex electric pump in the mines.

Manway in Orchard vein regraded.

Diamond drilling has been continued to prove the location of Orchard and Little Orchard vein, which run into faults east and west of the shaft.

Partly completed a new wash house containing novel sanitary features. Shower baths are used and the miners' clothes are suspended under the roof, being drawn up by chains. This thoroughly dries and airs the clothes and is an improvement over unsanitary lockers.

Ebervale Colliery.—Started to strip the Mammoth vein in the vicinity of old No. 5 south side slope. Two large steam shovels and seven locomotives are engaged at this work.

Stripping of Mammoth vein on North outcrop in vicinity of No. 1 slope continued; about half a million cubic yards were removed during the year. Two steam shovels and five locomotives were employed.

One Jeffrey 7½-ton electric locomotive was installed inside.

Removed 2 60-horsepower Erie City boilers from boiler house.

Jeddo No. 7 Colliery.—Eighty feet of tunnel were driven south from the Mammoth vein to Wharton vein, and old south side Harleigh workings are being reopened.

Forty feet of tunnel were driven south from Holmes to Mammoth vein, and old southeast Harleigh workings are being reopened.

Two tunnels, 130 feet long, were driven from the Holmes to Wharton vein, in connection with a new slope being driven in Wharton vein to replace Nos. 1 and 3 slopes.

Two Wharton breasts were driven from west gangway A, tunnel C through to surface, and are now being used for storing excess stripping coal. The surface stripping coal storage pockets were enlarged.

Regraded manway to Primrose vein, and connected Nos. 1 and 3 slopes by a traveling way.

A 10-inch artesian well was drilled at east end of village to a depth of 895 feet to supply water for steam purposes.

Installed elevators and spirals for handling egg and stove coal after jigging.

Installed 6 plunger jigs on small sizes of coal.

Installed new cast iron water line to shakers.

Built a trestle for stocking prepared coal formerly stocked at tidewater.

Installed a car stop and steam dump for dumping stripping cars at breaker; also a steam actuated lump cracker.

Put a new 18-ton Vulcan saddle tank locomotive into service.

Operations have been continued in the huge stripping over the old Harleigh Mammoth vein workings. Excavation of rock and other material amounted to about 1,000,000 cubic yards. Two steam shovels were employed in loading coal and six shovels in removing cover. Thirty steam locomotives and three hoisting planes are required to remove material from the stripping pit.

Highland No. 5 Colliery.—Diamond drilling has been continued to prove overlying veins.

Two tunnels, 100 feet long, and two rock holes, 150 feet long, from Buck Mountain vein to Gamma vein, were driven for the purpose of developing the Gamma vein, which is thin and irregular.

A portion of the old Jeddo No. 3 slope has been transformed into a plane for the lowering of coal from the east Buck Mountain gangway, and robbing has been started.

A tunnel from No. 8 to No. 8 vein through the saddle, 400 feet long, for the purpose of developing No. 8 vein, and a tunnel from No. 8 vein to No. 9 vein, 80 feet long, were driven for the purpose of developing No. 9 vein.

No. 11 vein was opened by rock holes from No. 10 and mined out.

An engine installed at top of tunnel D dip to develop coal in small synclinal.

Partly completed the remodelling of the entire breaker, installing complete new machinery throughout.

Installed an 18-ton revolving Bucyrus steam shovel for loading stock banks.

Erected a conveyor for stocking prepared coal formerly stocked at tidewater.

Partly completed a new building for colliery office, warehouse and first-aid hospital.

A brick washhouse for miners was completed.

Put a new 18-ton Vulcan saddle tank locomotive into service.

Highland No. 2 Colliery.—A new central pump room and a combined haulage and drainage tunnel, 1,800 feet long between Nos. 1 and 2 mines have been completed. The rock from this tunnel was stowed in breasts preparatory to robbing.

A rock sump 8 by 1 by 240 feet, and a rock pump room 15 by 20 by 157 feet have been completed.

A rock columnway has been driven from foot of slope A to first level, and in coal from first level to surface. This is in connection with pumping concentration.

Four Buck Mountain breasts have been driven to surface, and are now used for storing prepared coal formerly stocked at tidewater. Coal is dumped from railroad cars into breasts and the coal reloaded on the gangway for hoisting to breaker for re-preparation.

Six breasts under No. 1 village have been filled with breaker slate, preparatory to robbing the pillars.

Compound gearing attached to steamboat rolls to reduce speed.

Installed a 14 by 14¼ by 14-inch air compressor for the purpose of driving rock slope.

A combined office, warehouse and first-aid hospital building is being erected, also a washhouse for miners.

Highland No. 6 Slope: Lehigh Valley cars with capacity for 60,000 pounds, have been used for coveying unprepared mine coal to the Highland No. 5 breaker.

All gangways have been finished east and west to the barrier pillars, and robbing has been begun.

One oil burning steam locomotive installed to replace mule haulage.

The powder house was placed in a more protected position.

Additional surface drainage canals were constructed to divert surface water from cave-ins resulting from robbing.

Jeddo Village: One double dwelling with all modern conveniences erected.

Commenced the erection of an amusement Casino for employes, consisting of a 30 by 60-foot auditorium, double bowling alleys, billiard, card, smoking, reading and meeting rooms. Accommodations are also provided in 22 sleeping rooms, dining room, kitchen, etc., for permanent and transient boarders.

Removed the boilers from the Jeddo water works boiler house, and rebuilt the house for maintenance of one emergency boiler.

LEHIGH VALLEY COAL COMPANY

Hazleton Shaft Colliery.—Inside: A rock tunnel 6 by 6 by 138 feet long was driven south from the third level, East Buck Mountain gangway, south dip, at breast No. 68, with the intention of tapping Stockton water.

A rock tunnel 6 by 6 by 152 feet long was driven south from the third level, East Buck Mountain gangway, south dip, at breast No. 38, with the intention of tapping the Diamond basin water.

A rock tunnel 6 by 6 by 85 feet long was driven south to the Gamma vein from the third level, West Buck Mountain gangway at breast No. 2 for a traveling way from the rock slope pump to the tunnels from which the Stockton and Diamond basin water is to be tapped.

A new duplex condenser pump was installed in No. 40 slope pumping plant.

Outside: A chemical and fire hose house was built and the following buildings made fireproof: Buck Mountain fan, Diamond fan, Primrose fan, No. 5 slope fan, breaker engine house and conveyor house.

A first-aid and hospital room was constructed.

Hazleton No. 1 Colliery.—Inside: A rock tunnel 8 by 12 by 138 feet long was driven from the West Wharton gangway, third level, south dip to the Gamma vein.

A rock tunnel 8 by 12 by 147 feet long was driven from the East Orchard gangway, third level, south dip to the Primrose vein.

A rock tunnel 8 by 12 by 162 feet long was driven from the East Primrose gangway, fifth level, across the synclinal to the Primrose.

A rock tunnel 8 by 12 by 210 feet long was driven from the East Wharton gangway, seventh level, north dip, to the Buck Mountain.

Outside: An addition was built to the carpenter shops for car repairs.

A first-aid and hospital room was constructed.

Spring Mountain Colliery.—Inside: A rock tunnel 8 by 12 by 76 feet long was driven from the West Wharton gangway, No. 4 basin, to the underlap.

Outside: Built a concrete settling tank for ashes, with a conveyor line.

Erected electric hoisting engine, together with a tile engine house, at Primrose slope.

Installed an electrically driven, 5-foot Sirocco fan, in a tile house at Primrose slope.

The breaker pump house was made fireproof.

The tender slope hoisting engine was placed on a concrete foundation and a tile engine house erected.

Spring Brook Colliery.—Inside: A concrete overcast was constructed in the East Lykens gangway, No 1 slope.

A new pump room was made in the new Lykens slope No. 1.

Outside: The No. 2 slope hoisting engine was moved a short distance south from its former location and changed from a steam to an electrically driven engine, and a new tile house erected.

The drive on the No. 2 slope fan was changed from steam to electric.

The blacksmith and car repair shop was rebuilt.

COXE BROTHERS AND COMPANY, INCORPORATED

Drifton Colliery.—Erected light and loaded car scales, together with the necessary scale houses; also a tile office, ware, oil and cement house and a new first-aid room at No. 2 slope.

A Bucyrus 24-ton automatic steam shovel was placed in Lattimer stripping.

A conveyor line for silt was erected.

Eckley Colliery.—Outside: A Bucyrus 24-ton automatic steam shovel was placed in No. 6 stripping.

A stripping was started to uncover the coal left under the old D. S. and S. R. R. in No. 8 basin.

A first-aid and hospital room was constructed.

Inside: A rock tunnel, 200 feet long across the synclinal in the West Wharton No. 6 slope was completed.

An air shaft was sunk 78 feet to the saddle between the No. 2 slope and No. 5 slope basins to ventilate the trial slope gangway workings.

Deringer Colliery.—Outside: Erected a tile wash house and a first-aid and hospital room.

The wooden loco track bridge between Deringer and Gowen was replaced with one of steel on a concrete foundation.

A 24-ton automatic steam shovel was placed in the Deringer stripping.

Inside: A rock tunnel 8 by 12 by 228 feet long was driven from 9 East gangway to the Gamma veins.

PARDEE BROTHERS AND COMPANY, INCORPORATED

Lattimer Colliery.—A tunnel 7 by 11 feet, 50 feet in length, was driven south off No. 12 slope at an elevation of 1,198 feet to connect with the Mammoth vein workings off slope No. 10.

A tunnel 7 by 11 feet, 50 feet in length, was driven south from the counter gangway in the Gamma vein slope No. 12 to the Mammoth vein gangway off slope No. 10, elevation 1,198 feet.

A tunnel 7 by 9 feet, 50 feet in length, was driven south off the No. 9 muleway at breast No. 19 to the East Wharton counter gangway, elevation 1,368 feet.

A tunnel 7 by 9 feet, 25 feet in length, was driven south from the West Gamma counter gangway from slope No. 8 to the stripping to take what coal remains in No. 3 tunnel basin.

A tunnel 7 by 9 feet, 95 feet in length, was driven south from the third lift east gangway off slope No. 22 to connect with the West Buck Mountain gangway from the back basin.

A tunnel 7 by 9 feet, 137 feet in length, was driven north from the third lift west gangway off slope No. 22 to prove for the underlying Alpha vein.

A new motor house 13 by 30 feet was made in the rock between the Gamma and Buck Mountain veins at the foot of No. 9 muleway.

A rock hole was driven from the Buck Mountain vein slope No. 8 to the stripping, Carter's basin, and a 54-inch steam driven fan placed over it.

A rock hole was driven from the Gamma vein to the basin of the Wharton vein on the west side slope No. 9.

An air-shaft was sunk to the face of breast No. 60, on the west gangway second lift slope No. 22.

A six-foot steam driven fan was placed over slope B.

A six-foot steam driven fan was erected over the shaft in the top split of the Alpha vein at slope No. 22.

A club room and first-aid building 18 by 42 by 10 feet was constructed for the convenience of the employes.

A steam heated storm shed 247 by 28 by 7 feet was constructed north of the canal at No. 4 breaker to store what coal remains unhoisted at the breaker during the cold weather.

Two cast iron grooved drums were placed on No. 9 engine, the one being equipped with friction clutch and adjustable to hoist from No. 10 and No. 12 levels.

A new elevator was erected on the north side of No. 4 breaker to replace a long conveyor line.

The run of mine conveyor line plane at No. 4 breaker was entirely rebuilt of long leaf yellow pine replacing the old hemlock timbers of which it was originally constructed. All the work was done while the breaker was in operation.

A wood tank with a capacity of 100,000 gallons was erected on the ridge south of town into which the water is pumped from the reservoirs and which gives ample pressure at all times for colliery and fire purposes.

A new twenty-ton Porter locomotive was added to the outside equipment.

A new Webster class EC feed-water heater and purifier and two new Imperial type 10 Ingersoll-Rand air compressors were installed in the power house at No. 4 breaker to replace three smaller machines.

Milnesville: The Milnesville shaft was completed to the third lift.

A tunnel 7 by 11 feet, 245 feet in length, was driven from the shaft north to second level gangway in the Wharton vein.

The tunnel at the foot of the shaft was extended south 100 feet.

The drainage tunnel was extended 500 feet.

The tunnel 7 by 9 feet, 23 feet in length, was driven north from the stripping to the Gamma vein.

A rock hole was driven from the second to the first split of the Buck Mountain vein on the first lift at the shaft.

A rock hole was driven from the Gamma to the Wharton vein and a hole driven out to the stripping east of No. 7 slope to take the Primrose and Holmes veins coal.

A hospital building 10 by 14 feet was built at the head of the shaft.

A new Welsh safety apparatus has been placed on the electric hoist at the shaft.

A tunnel 7 by 9 feet was driven north 375 feet from No. 2 stripping at Hollywood which cut several of the underlying veins.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Young Men's Christian Association Building, Hazleton, April 22 and 23. The Board of Examiners was composed of David J. Roderick, Mine Inspector, Hazleton; John J. Turnbach, Superintendent, Beaver Brook; Frederick Young, Miner, Hazleton; James North, Miner, Drifton.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

John D. Williams, Beaver Brook; Daniel Jenkins, Audenried; Joseph Barber, John E. Davis, Lansford; William McGinley; Edward Denneny, Drifton; Patrick C. O'Donnell, Dennis J. Ferry, Henry Stark, Freeland; James Crabtree, William F. Purdy, Hazleton.

ASSISTANT MINE FOREMEN

Peter Harkins, Harleigh; Howard J. Monroe, Lattimer; Richard Dudley, Sandy Run; James G. Breslin, Jeddo; Joseph Taylor, Henry W. Sube, Audenried; John Dougherty, McAdoo; Stephen J. Stevens, Robert J. Cooper, Summit Hill; James E. Coll, Lansford; James H. Buchman, Michael Murrin, John J. Brogan, John Boyle, John J. Bonner, Charles J. Gallagher, Freeland; Sheldon P. Williams, Robert Gill, James Horn, James D. Taylor, James Kennedy, William H. Marshall, James Bray, Joseph McCoy, Richard Jefferson, Hazleton.

TWELFTH DISTRICT

SCHUYLKILL COUNTY

Mahanoy City, Pa., February 18, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines for the Twelfth Anthracite District, for the year ending December 31, 1913.

The report contains statistics relative to production, number of days worked, employes, accidents and the condition of the collieries.

Respectfully submitted,

P. C. FENTON,
Inspector.

SUMMARY OF STATISTICS

Number of collieries,	9
Number of mines,	16
Number of mines in operation,	16
Number of tons of coal shipped to market,	2,702,086
Number of tons used at mines for steam and heat,	424,091
Number of tons sold to local trade and used by employes,	46,567
Number of tons produced,	3,172,744
Number of tons produced by compressed air machines,.	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	4,906
Number of persons employed outside,	2,103
Number of fatal accidents inside of mines,	23
Number of fatal accidents outside,	7
Number of non-fatal accidents inside of mines,	18
Number of non-fatal accidents outside,	5
Number of tons of coal produced per fatal accident inside,	137,945
Number of tons produced per fatal accident outside,	453,249
Number of tons produced per fatal accident inside and outside,	105,758
Number of persons employed per fatal accident inside,	213
Number of persons employed per fatal accident outside,.	300
Number of persons employed per fatal accident inside and outside,	234
Number of persons employed per non-fatal accident inside,	273
Number of persons employed per non-fatal accident outside,	421
Number of persons employed per non-fatal accident inside and outside,	305
Number of wives made widows,	14
Number of children made orphans,	20
Number of steam locomotives used inside of mines,	18
Number of steam locomotives used outside,	....
Number of compressed air locomotives used inside,	15
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	14
Number of electric motors used outside,	2
Number of fans in use,	16
Number of furnaces in use,	....
Number of gaseous mines in operation,	16
Number of non-gaseous mines in operation,	....
Number of new mines opened,	....
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company,	2,698,478
Lehigh Valley Coal Company,	474,266
Total,	3,172,744

Production by Counties

Schuylkill,	3,172,744

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	15	7	22	15	2	17	179,898	179,898	4,137	1,807	5,944	276	258	276	903
Lehigh Valley Coal Co.,	8	......	8	3	3	6	59,283	158,089	769	296	1,065	96	....	256	99
Totals and averages for district,	23	7	30	18	5	23	137,945	176,264	4,906	2,103	7,009	213	300	273	421

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	1	....	1	....	....	....	....	....	2	8.70
Falls of slate,	....	....	....	2	2	1	....	....	....	1	....	....	6	26.09
Falls of roof,	....	....	....	1	....	1	....	....	....	....	....	1	3	13.04
Mine cars,	2	1	....	....	....	....	....	....	1	....	....	1	5	21.74
Explosions of gas,	1	1	....	....	....	....	....	....	....	1	....	....	3	13.04
Rush of coal,	1	....	....	....	2	....	....	....	....	....	....	....	3	13.04
Struck by rope,	....	....	1	....	....	....	....	....	....	....	....	....	1	4.35
Totals,	4	2	1	3	5	2	1	....	1	2	....	2	23	100.00
Causes of Accidents Outside														
Cars,	....	....	1	1	2	....	1	....	....	....	....	....	5	71.43
Machinery,	....	....	1	....	....	1	....	....	....	....	....	....	2	28.57
Totals,	....	....	2	1	2	1	1	....	....	....	....	....	7	100.00
Grand totals inside and outside,	4	2	3	4	7	3	2	....	1	2	....	2	30	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	1	....	....	....	....	....	1	....	....	1	....	1	4	22.22
Falls of slate,	....	....	....	1	....	....	....	....	....	....	....	....	1	5.56
Falls of roof,	....	....	....	....	....	....	....	....	....	....	....	1	1	5.56
Mine cars,	....	....	....	....	....	1	1	....	....	....	2	....	4	22.22
Explosions of gas,	1	....	....	....	....	1	....	....	....	....	....	....	2	11.11
Explosions of powder and dynamite,	....	....	....	1	....	....	....	....	....	....	....	....	1	5.56
Blasts, premature and otherwise,	1	....	....	1	....	....	....	....	1	....	....	....	3	16.66
Caught in guard rail,.	....	....	....	....	....	....	....	....	1	....	....	....	1	5.56
Cause unknown,	....	....	....	....	....	....	....	....	....	....	....	1	1	5.55
Totals,	3	....	....	3	....	2	2	....	2	1	2	3	18	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	1	1	1	....	2	5	100.00
Totals,	....	....	....	....	....	....	....	1	1	1	....	2	5	100.00
Grand totals inside and outside,	3	...	....	3	....	2	2	1	3	2	2	5	23	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	....	1	....	....	....	....	....	....	....	....	....	....	1
Miners,	3	....	1	1	4	1	....	....	1	1	....	1	13
Miners' laborers,	....	....	....	2	1	1	1	....	....	1	....	....	6
Drivers and runners,	1	1	....	....	....	....	....	....	....	....	....	....	2
Doorboys and helpers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	4	2	1	3	5	2	1	....	1	2	....	2	23
Outside													
Laborers,	....	....	2	1	1	....	1	....	....	....	....	....	5
Topmen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Feeders,	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals,	....	....	2	1	2	1	1	....	....	....	....	....	7
Grand totals inside and outside,	4	2	3	4	7	3	2	....	1	2	....	2	30

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	2	....	....	2	....	1	2	....	1	1	....	2	11
Miners' laborers,	....	....	....	1	....	1	....	....	....	....	....	....	2
Drivers and runners,	....	....	....	....	....	....	....	....	....	....	1	....	1
Pumpmen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Loaders,	....	....	....	....	....	....	....	....	1	....	....	....	1
Starters,	1	....	....	....	....	....	....	....	....	....	....	....	1
Spraggers,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	3	....	....	3	....	2	2	....	2	1	2	3	18
Outside													
Blacksmiths and carpenters,	....	....	....	....	....	....	....	....	1	....	....	....	1
Headmen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Runners,	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Spraggers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	....	....	....	....	....	....	....	1	1	1	....	2	5
Grand totals inside and outside,	3	....	....	3	....	2	2	1	3	2	2	5	23

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	1	2	2	....	....	....	....	....	....	....	6
Irish,	1	1	....	....	....	....	....	....	....	....	....	....	2
Polish,	1	....	....	....	1	....	1	....	....	....	....	1	4
Italian,	....	1	....	....	1	....	....	....	....	....	....	....	2
Slavonian,	....	....	1	....	....	1	....	....	....	....	....	....	2
Lithuanian,	1	....	....	1	1	2	1	....	1	2	....	....	9
Russian,	....	....	1	1	2	....	....	....	....	....	....	....	4
Greek,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	4	2	3	4	7	3	2	....	1	2	....	2	30

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	....	....	....	....	....	....	1	....	1	2	5
Irish,	1	....	....	....	....	....	....	1	....	....	....	....	2
Polish,	....	....	....	1	....	....	....	....	1	....	1	3	6
Slavonian,	....	....	....	....	....	1	....	....	....	....	....	....	1
Lithuanian,	1	....	....	2	....	1	1	....	1	1	....	....	7
Russian,	....	....	....	....	....	....	1	....	....	....	....	....	1
Greek,	....	....	....	....	....	....	....	....	....	1	....	....	1
Totals,	3	...	....	3	....	2	2	1	3	2	2	5	23

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.																
Ellangowan Colliery:																
Ellangowan, ...	Slope,.....	Gaseous, ..	Fan, ...	20	6.6	6.0	80	1.4	Guibal, ...	Steam,......	....	10	78,419	9,900	80,000	193
Ellangowan, ...	Shaft,.....	Gaseous, ..	Fan, ...	15	7.0	6.6	76	.5	Guibal, ...	Steam,......	....	7	80,433	7,500	80,947	270
St. Nicholas Colliery:																
St. Nicholas, ...	Slope,.....	Gaseous, ..	Fan, ...	21	7.0	6.6	90	2.4	Guibal, ...	Steam,......	...	10	47,430	38,040	47,430	135
Suffolk Colliery:																
Suffolk, ...	Slope,.....	Gaseous, ..	Fan, ...	18	6.6	5.6	60	1.4	Guibal, ...	Steam,......	....	5	36,162	18,637	36,702	76
Suffolk, ...	Slope,.....	Gaseous, ..	Fan, ...	18	6.6	5.6	60	1.2	Guibal, ...	Steam,......	....	7	52,127	26.625	53,873	81
Maple Hill Colliery:																
Maple Hill, ...	Shaft,.....	Gaseous, ..	Fan, ...	21	7.0	6.6	75	1.9	Guibal, ...	Steam,......	....	10	70,000	33,660	71,790	250
Maple Hill, ...	Shaft,.....	Gaseous, ..	Fan, ...	21	7.0	6.6	75	1.9	Guibal, ...	Steam,......	...	10	50,380	24,530	51,280	159
Tunnel Ridge Colliery:																
Tunnel Ridge, ...	Slope,.....	Gaseous, ..	Fan, ...	21	7.0	6.3	75	2.0	Guibal, ...	Steam,......	....	9	99,246	32,303	99,900	257
Mahanoy City Colliery:																
Mahanoy City, ...	Slope,.....	Gaseous, ..	Fan, ...	21	7.0	6.6	86	2.0	Guibal, ...	Steam,......	....	10	69,575	22,485	72,265	105
Mahanoy City, ...	Slope,.....	Gaseous, ..	Fan, ...	12	3.5	3.0	60	1.1	Guibal, ...	Steam,......	....	2	18,120	5,600	18,625	20
North Mahanoy Colliery:																
North Mahanoy, ...	Slope,.....	Gaseous, ..	Fan, ...	21	7.6	6.3	78	1.5	Guibal, ...	Steam,......	....	8	98,988	65,450	99.898	238

Lehigh Valley Coal Co.																
Primrose Colliery:																
Primrose,	Slope,	Gaseous,	Fan,	16	4.0	4.6	100	1.5	Guibal,	Steam,	....	6	78,448	71,782	79,340	57
Park No. 2 Colliery:																
Park No. 1,	Slope,	Gaseous,	Fan,	16	4.0	4.5	90	1.5	Guibal,	Steam,	..	9	48,300	34,340	61,200	76
Park No. 2,			Fan,	14	4.0	4.0	90	1.3			..	6	52,300	42,590	55,000	93
Park No. 3,			Fan,	16	5.4	4.5	85	1.5			..	10	76,000	41,500	85,175	139
Park No. 4,			Fan,	12	3.5	3.0	120	1.5								

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.						
Ellangowan,	Schuylkill,	W. J. Richards,	Pottsville,	Reese Tasker,	Pottsville,	P. and R.
St. Nicholas,						
Suffolk,						
Maple Hill,						
Tunnel Ridge,						
Mahanoy City,						
North Mahanoy,						
Lehigh Valley Coal Co.						
Park No. 2,	Schuylkill,	Thomas Thomas,	Wilkes-Barre,	T. R. Jones,	Park Place,	Lehigh Valley
Primrose,						

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.													
Ellangowan,	Schuylkill,	340,253	43,075	1,390	384,718	266	1,137	2	2	252,425	78,748	....	68
St. Nicholas,		206,739	36,501	347	243,587	265	500	5	2	14,350	48,429	29,475	43
Suffolk,		322,505	22,087	1,207	345,799	265	823	2	3	96,250	92,235	....	66
Maple Hill,		741,282	67,653	....	808,935	266	1,471	5	5	348,250	134,820	31,425	72
Tunnel Ridge,		145,366	59,104	....	204,470	260	617	2	1	30,150	55,531	13,500	55
Mahanoy City,		222,470	35,741	36,168	294,379	259	616	3	1	98,000	74,049	....	52
North Mahanoy,		369,358	42,188	5,044	416,590	255	780	3	3	120,700	86,272	....	71
Totals,	....	2,347,973	306,349	44,156	2,698,478	......	5,944	22	17	960,125	570,084	74,400	427
Lehigh Valley Coal Co.													
Park No. 2,	Schuylkill,	235,299	98,498	2,411	336,208	250	718	5	4	108,840	38,745	35,709	77
Primrose,		118,814	19,244	....	138,058	250	347	3	2	98,650	33,863	....	30
Totals,	....	354,113	117,742	2,411	474,266	......	1,065	8	6	207,490	72,608	35,709	107
Grand totals,	....	2,702,086	424,091	46,567	3,172,744	......	7,009	30	23	1,167,615	642,692	110,109	534

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	......	......	124	15,550	15,550	14	15	11	246	34,379	21	44,222	10,998	2	13
Lehigh Valley Coal Co.,	Schuylkill,	......	......	29	6,550	6,550	4	......	5	84	11,688	11	15,000	6,000	1	1
Totals,		......	......	153	22,100	22,100	18	15	16	330	46,067	32	59,222	16,998	3	14

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Philadelphia and Reading Coal and Iron Co., ...	Schuylkill, ..	8	69	....	1,182	941	278	55	15	590	999	4,137	....	12	56	207	302	94	31	1,105	1,807	5,944
Lehigh Valley Coal Co.,..	Schuylkill, ..	3	20	....	296	205	59	8	12	20	146	769	1	3	18	63	....	5	3	203	296	1,065
Totals, ...	....	11	89	....	1,478	1,146	337	63	27	610	1,145	4,906	1	15	74	270	302	99	34	1,308	2,103	7,009

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	25	23	20	24	24	24	19	18	17	25	23	20	262
Lehigh Valley Coal Co.,	Schuylkill,	24	21	16	21	21	24	19	19	18	23	23	21	250

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	7	Hugh E. O'Donnell, ..	Irish, ...	Runner, ...	35	M.	1	1	North Mahanoy,	Schuylkill, .	Fatally injured by being caught between empty and loaded cars on turnout.
	14	Robert Dunlap, ...	American, ..	Miner, ...	33	M.	1	5	Maple Hill, ...		Fatally injured by falling under trip of mine cars in tunnel. Neck broken.
	23	Mike Conarowski, ...	Lithuanian,	Miner, ...	48	M.	1	2	Maple Hill, ...		Fatally injured by explosion of gas at face of breast.
	24	Charles Shultz, ...	Polish,......	Miner, ...	28	S.	....	....	Ellangowan, ..		Killed in stump heading by rush of coal. Smothered.
Feb.	6	Frank Kasey, ...	Italian, ...	Driver, ...	24	S.	....	....	Primrose, ...		Fatally injured by being caught between car and prop on low side of gangway.
	15	Thomas Feeley, ...	Irish, ...	Fire boss, ...	51	M.	1	....	Maple Hill, ...		Fatally injured by explosion of gas at face of breast while making his examination in the morning.
March	5	Mike Stancavage, ...	Slavonian, .	Laborer, ...	29	M.	1	....	St. Nicholas, .		Fatally injured by being caught between railroad car and timber under breaker. Outside.
	6	Thomas Galvin, ...	American, ..	Laborer, ...	19	S.	....	....	St. Nicholas, .		Fatally injured by being caught by circular saw in saw mill. Outside.
	11	August Maginis, ...	Russian, ...	Miner, ...	43	M.	1	....	Primrose, ...		Fatally injured by being thrown by rope while walking down underground slope.
April	5	Anthony Wicherlonas,.	Russian, ...	Miner, ...	41	S.	....	....	Park No. 2, ...		Fatally injured by fall of top slate at face of skip.
	8	Phillip Dowling, ...	American, ..	Laborer, ...	28	S.	....	....	St. Nicholas, .		Fatally injured by having foot caught in guard rail and trip of cars running over it. Outside.
	19	Elber Sheppard, ...	American, ..	Laborer, ...	42	S.	....	....	North Mahanoy,		Instantly killed by fall of slate at face of skip.
	25	Adam Schabaka, ...	Lithuanian,	Laborer, ...	27	S.	....	....	Mahanoy City,.		Fatally injured by fall of rock at face of breast.
May	7	Carol Lulin, ...	Italian, ...	Laborer, ...	19	S.	....	....	Suffolk, ...		Instantly killed by being run over by locomotive at foot of plane on strippings. Outside.
	13	Harvey Fritz, ...	American, ..	Top man, ...	23	M.	1	....	Suffolk, ...		Instantly killed by being run over by trip of cars at head of slope. Outside.
	15	Charles McCutcheon, .	American, ..	Miner, ...	43	M.	1	2	Maple Hill, ...		Killed by fall of slate at face of gangway.

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
May 16	Steve Kisolouski,	Lithuanian,	Miner,	23	S.	....	...	North Mahanoy	Schuylkill,	Killed by fall of coal at face of gangway.
19	Joseph Micolike,	Polish,	Laborer,	21	S.	....	..	St. Nicholas,		Internally injured by fall of slate near face of gangway.
June 18	John Kobilko,	Russian,	Miner,	29	M.	1	2	Park No. 2,		Killed by rush of coal while reopening gangway.
	Simon Youbilick,	Russian,	Miner,	45	M.	1	2			
	Andrew Zubic,	Slavonian,	Feeder,	18	S.	....	....	Tunnel Ridge,		Killed by being caught in machinery in conveyor line near breaker. Outside.
26	Joseph Arbaarhefski,	Lithuanian,	Laborer,	19	S.	....	....	Maple Hill,		Killed by fall of rock at face of breast.
	Stiney Hurban,	Lithuanian,	Miner,	39	M.	1	3	Park No. 2,		Fatally injured by fall of slate at face of breast.
July 8	Joseph Oravage,	Polish,	Laborer,	59	M.	1	....	Ellangowan,		Fatally injured by being run over by railroad car near breaker. Outside.
17	John Wargo,	Lithuanian,	Laborer,	23	M.	1	...	Mahanoy City,		Fatally injured by fall of coal at face of skip.
Sept. 29	Joseph Ougen,	Lithuanian,	Miner,	41	M.	1	3	St. Nicholas,		Fatally injured by being run over by locomotive on gangway.
Oct. 9	Martin McLasavage,	Lithuanian,	Miner,	32	S.	....	....	Tunnel Ridge,		Fatally injured by explosion of gas at face of breast.
Dec. 21	Anthony Doresky,	Lithuanian,	Laborer,	40	S.	....	...	Mahanoy City,		Killed by fall of top slate at face of skip.
12	Anthony Wingus,	Polish,	Miner,	30	S.	....	...	Primrose,		Killed by fall of rock at face of gangway.
22	Mike Shakella,	Greek,	Door boy,	19	S.	....	....	Park No. 2,		Killed by trip of cars on gangway.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	7	Elick Anderson, ...	Irish, ...	Starter, ...	39	S.	Tunnel Ridge, ...	Schuylkill, .	Injured by premature blast at battery.
	9	William O'Brien .....,	American, ..	Miner, ...	52	M.	Maple Hill, ...		Injured by fall of coal at face of breast.
	23	Charles Benddiski, ...	Lithuanian,	Miner, ...	50	M.	Maple Hill, ...		Injured by explosion of gas at face of breast.
April	4	Mike Erasko, ...	Lithuanian,	Miner, ...	32	M.	St. Nicholas, ...		Injured by fall of slate at face of breast.
	5	Frank Tracker, ...	Polish, ...	Miner, ...	42	M.	North Mahanoy, ...		Injured by premature blast at face of gangway.
June	10	Joseph Petrow, ...	Lithuanian,	Laborer, ...	21	S.	Ellangowan, ...		Injured by powder exploding in heading.
	3	Frank Nebitski, ...	Lithuanian,	Laborer, ...	23	S.	St. Nicholas, ...		Injured by being caught between car and chute on gangway.
July		Steve Masko, ...	Slavonian, .	Miner, ...	36	M.	Mahanoy City, ...		Slightly burned by gas in old workings.
	11	Anthony Butman, ...	Russian, ...	Miner, ...	37	M.	Park No. 2, ...		Injured by being caught between car and rib on gangway.
Aug.	24	Watdek Duerski, ...	Lithuanian,	Miner, ...	35	M.	North Mahanoy, ...		Injured by fall of coal at face of breast.
	13	Michael Dugan, ...	Irish, ...	Headman, ...	32	S.	Primrose, ...		Injured by car turning over on him at head of slope. Outside.
Sept.	16	Walter Soroco, ...	Polish, ...	Loader, ...	20	S.	Maple Hill, ...		Injured by foot being caught in guard rail at head of plane.
	17	Matt Lokoshis, ...	Lithuanian,	Miner, ...	47	S.	Ellangowan, ...		Injured by premature blast at face of gangway.
	19	Benjamin Evans, ...	American, ..	Carpenter, ...	27	S.	Park No. 2, ...		Injured by being caught between cars at foot of plane. Outside.
Oct.	1	John Ferruce, ...	Greek, ...	Runner, ...	24	S.	Maple Hill, ...		Injured by being caught between cars at head of breaker. Outside.
Nov.	17	Anthony Raslavich, ..	Lithuanian,	Miner, ...	42	M.	Maple Hill, ...		Injured by fall of coal in chute.
	11	Stiney Bushick, ...	Polish, ...	Driver, ...	18	S.	North Mahanoy, ...		Injured by trip of cars on gangway.
	19	Bernard Matthews, ...	American, ..	Spragger, ...	17	S.	Suffolk, ...		Injured by being caught between car and rib on gangway.
Dec.	4	Steve Fulskey, ...	Polish, ...	Laborer, ...	20	S.	Suffolk, ...		Injured by being bumped by mine cars at head of slope. Outside.
	5	Clarence Smith, ...	American, ..	Spragger, ...	18	S.	Park No. 2, ...		Injured by wheel of car running over his foot. Outside.
	12	Frank Shibovich, ...	Polish, ...	Miner, ...	35	M.	Primrose, ...		Injured by fall of rock at face of gangway.
		Victor Strenkopski, ..	Polish, ...	Miner, ...	30	M.	Suffolk, ...		Injured by fall of coal at face of breast.
	26	Dan VanHorn, ...	American, ..	Pumpman, ...	23	S.	Park No. 2, ...		Injured in some way unknown. He was found in the emergency hospital by the assistant foreman with his skull fractured.

CONDITION OF COLLIERIES

PHILADELPHIA AND READING COAL AND IRON COMPANY

Ellangowan Colliery.—Ventilation, drainage and condition as to safety good.

St. Nicholas Colliery.—Ventilation, drainage and condition as to safety good.

Suffolk Colliery.—Ventilation, drainage and condition as to safety good.

Maple Hill Colliery.—Ventilation, drainage and condition as to safety good.

Tunnel Ridge Colliery.—Ventilation, drainage and condition as to safety good.

Mahanoy City Colliery.—Ventilation, drainage and condition as to safety good.

North Mahanoy Colliery.—Ventilation, drainage and condition as to safety good.

LEHIGH VALLEY COAL COMPANY

Park No. 2 Colliery.—Ventilation, drainage and condition as to safety good.

Primrose Colliery.—Ventilation, drainage and condition as to safety good.

IMPROVEMENTS

PHILADELPHIA AND READING COAL AND IRON COMPANY

Ellangowan Colliery.—Concrete supports were placed in pump room at Fifth level, making it fireproof.

St. Nicholas Colliery.—An electric hoist was installed for Buck Mountain slope, water level drift.

Suffolk Colliery.—Steel supports lagged with sheet iron were placed in pump room at foot of No. 1 slope, making it fireproof.

Maple Hill Colliery.—A rock airway was driven from Ellangowan shaft level to surface 455 feet.

A 21-foot exhaust fan, operated by a 16 by 30-inch engine was installed.

A tunnel was driven to Holmes vein from Bore Hole slope, 720 feet.

Tunnel Ridge Colliery.—A tunnel was driven across Basin from Skidmore vein, South dip, to Skidmore, North dip, 235 feet.

A fireproof hospital was built at foot of underground slope, fourth level.

Mahanoy City Colliery.—The exhaust fan in Primrose vein was equipped with an electric motor.

A tunnel was driven from Orchard vein, North dip, to Diamond vein in water level drift, 69 feet.

A tunnel was driven from Primrose vein, North dip, to orchard vein, North dip, 119 feet.

North Mahanoy Colliery.—Outside: The two 9 by 38-inch steam pumps at slush plant were replaced by one 9 by 12 inch electric motor driven pump.

LEHIGH VALLEY COAL COMPANY

Park No. 2 Colliery.—A tunnel was driven from Skidmore vein to Mammoth Bottom split, 97 feet.

A tunnel was driven on First level from Buck Mountain, South dip, to Buck Mountain, North dip, 873 feet.

Outside: Two concrete and tile locomotive houses were built at Nos. 1 and 3 slopes.

A 30 by 44-foot concrete and tile engine house was built at No. 7 slope, and a pair of 26 by 36-inch Stroh hoisting engines installed.

A concrete and tile supply house was built at Park No. 2 slope.

Primrose Colliery.—A tunnel was driven on Main level from ten-foot vein to Seven-foot vein, South dip, 461 feet.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held at Pottsville, March 25 and 26. The Board of Examiners was composed of P. C. Fenton, Mine Inspector, Mahanoy City; Dellwyn Wolfe, Superintendent, Mahanoy City; William Becker, Miner, Mahanoy City; P. H. Devine, Miner, Shaft P. O.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

David Lloyd, John Walton, Mahanoy City.

ASSISTANT MINE FOREMEN

Patrick Whalen, Jacob Wentz, Irvin Brown, Joseph Whalen. George Stern, Thomas Matthews, Mahanoy City.

THIRTEENTH DISTRICT

SCHUYLKILL COUNTY

Shenandoah, Pa., February 20, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: In compliance with the anthracite mining laws, I transmit herewith my annual report of the Thirteenth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

A. B. LAMB,
Inspector.

SUMMARY OF STATISTICS

Number of collieries,	14
Number of mines,	29
Number of mines in operation,	29
Number of tons of coal shipped to market,	2,333,566
Number of tons used at mines for steam and heat,	313,285
Number of tons sold to local trade and used by employes,	63,069
Number of tons produced,	2,709,920
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	4,164
Number of persons employed outside,	2,715
Number of fatal accidents inside of mines,	26
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	32
Number of non-fatal accidents outside,	4
Number of tons of coal produced per fatal accident inside,	104,228
Number of tons produced per fatal accident outside,	903,307
Number of tons produced per fatal accident inside and outside,	93,446
Number of persons employed per fatal accident inside,	160
Number of persons employed per fatal accident outside,	905
Number of persons employed per fatal accident inside and outside,	237
Number of persons employed per non-fatal accident inside,	130
Number of persons employed per non-fatal accident outside,	679
Number of persons employed per non-fatal accident inside and outside,	191
Number of wives made widows,	17
Number of children made orphans,	29
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	42
Number of compressed air locomotives used inside,	7
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	7
Number of electric motors used outside,	1
Number of fans in use,	29
Number of furnaces in use,	....
Number of gaseous mines in operation,	24
Number of non-gaseous mines in operation,	5
Number of new mines opened,	1
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company,	1,749,701
Susquehanna Coal Company,	327,052
Thomas Colliery Company,	288,110
Harleigh Brookwood Coal Company,	173,778
Cambridge Coal Company,	78,724
Locust Mountain Coal Company,	2,500
H. H. Smith and Company,	69,705
Oxford Coal Company,	20,350
Total,	2,709,920

Production by Counties

Schuylkill,	2,709,920

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	21	1	22	22	3	25	83,319	79,532	3,224	1,467	4,691	154	1,467	147	489
Susquehanna Coal Co.,	......	......	......	6	......	6	....	54,509	373	219	592	....	....	62	....
Thomas Colliery Co.,	1	......	1	4	......	4	288,110	72,028	278	213	491	278	....	70	....
Harleigh Brookwood Coal Co.,	4	......	4	......	......	......	43,445	....	203	232	435	51	....	....	....
Locust Mountain Coal Co.,	......	1	1	......	1	1	....	....	60	390	450	....	390	....	390
Oxford Coal Co.,	......	1	1	......	......	......	....	....	....	76	76	....	76	....	....
Miscellaneous Companies,	......	......	......	......	......	......	....	....	26	118	144	....	....	....	....
Totals and averages for district, ...	26	3	29	32	4	36	104,228	84,685	4,164	2,715	6,879	160	905	130	679

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	1	....	....	....	3	....	....	....	2	6	23.08
Falls of slate,	....	1	....	....	....	....	....	....	....	....	....	....	1	3.85
Falls of roof,	....	....	....	1	1	1	....	....	....	....	....	....	3	11.54
Mine cars,	....	....	1	1	....	1	....	....	....	1	....	....	4	15.38
Suffocation by gas, etc.	....	....	1	....	....	....	....	....	....	....	....	....	1	3.84
Blasts, premature and otherwise,	1	....	....	....	2	....	....	....	....	....	....	....	3	11.54
Falling into shafts,	....	....	....	....	1	....	....	....	....	....	1	....	2	7.69
Falling into slopes, etc.	....	....	....	....	....	1	....	....	....	....	1	1	3	11.54
Struck by timber,	1	....	....	1	....	....	....	....	....	....	....	1	3	11.54
Totals,	2	1	2	4	4	3	....	3	....	1	2	4	26	100.00
Causes of Accidents Outside														
Cars,	....	1	....	1	....	....	....	....	....	....	....	....	2	66.67
By falling,	....	....	....	....	....	....	....	....	1	....	....	....	1	33.33
Totals,	....	1	....	1	....	....	....	....	1	....	....	....	3	100.00
Grand totals inside and outside,	2	2	2	5	4	3	....	3	1	1	2	4	29	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	1	....	....	....	....	....	....	1	....	1	1	....	4	12.50
Falls of slate,	....	....	....	....	1	....	....	1	....	....	....	....	2	6.25
Falls of roof,	....	....	....	....	....	1	....	....	....	....	....	....	1	3.13
Mine cars,	....	....	....	....	....	....	1	1	....	....	1	3	6	18.75
Explosions of gas,	3	2	3	....	....	2	....	....	....	....	....	....	10	31.25
Explosions of powder and dynamite,	....	....	....	....	....	....	....	....	....	....	....	1	1	3.13
Blasts, premature and otherwise,	....	....	....	1	....	....	....	....	....	....	1	....	2	6.25
Crushed at batteries,	....	....	1	....	....	....	....	....	....	....	1	....	2	6.25
Struck by timber,	1	....	....	....	....	1	....	....	....	....	....	....	2	6.25
Coal rolled on him,	1	....	....	....	....	....	....	....	....	....	....	....	1	3.12
By falling	....	....	....	....	....	1	....	....	....	....	....	....	1	3.12
Totals,	6	2	4	1	1	5	1	3	....	1	4	4	32	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	....	....	....	2	....	2	50.00
Struck by timber,	....	....	....	....	....	....	1	....	....	....	....	....	1	25.00
Struck by stand pipe,	....	....	....	....	....	....	....	....	1	....	....	....	1	25.00
Totals,	....	....	....	....	....	....	1	....	1	....	2	....	4	100.00
Grand totals inside and outside,	6	2	4	1	1	5	2	3	1	1	6	4	36	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	2	....	1	2	3	2	....	2	....	....	....	3	15
Miners' laborers,	....	1	1	....	1	....	....	1	....	....	2	1	7
Drivers and runners,	....	....	....	1	....	....	....	....	....	1	....	....	2
Doorboys and helpers,	....	....	....	1	....	....	....	....	....	....	....	....	1
Roadmen,	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals,	2	1	2	4	4	3	....	3	....	1	2	4	26
Outside													
Topmen,	....	....	....	1	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Patchers,	....	1	....	....	....	....	....	....	....	....	....	....	1
Totals,	....	1	....	1	....	....	....	....	1	....	....	....	3
Grand totals inside and outside,	2	2	2	5	4	3	....	3	1	1	2	4	29

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	3	2	3	1	1	3	....	2	....	1	2	1	19
Miners' laborers,	3	....	1	....	....	2	1	....	....	....	2	1	10
Drivers and runners,	....	....	....	....	....	....	....	1	....	....	....	1	2
Loader bosses,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	6	2	4	1	1	5	1	3	....	1	4	4	32
Outside													
Brakemen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Laborers,	....	....	....	....	....	....	....	....	....	....	1	....	1
Timber cutters,	....	....	....	....	....	....	1	....	....	....	....	....	1
Timbermen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	....	....	....	....	....	....	1	....	1	....	2	....	4
Grand totals inside and outside,	6	2	4	1	1	5	2	3	1	1	6	4	36

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	1	....	2	....	....	....	....	1	1	....	1	7
English,	....	....	....	....	....	1	....	....	....	....	....	....	1
Polish,	1	....	....	....	1	2	....	1	....	....	1	1	7
Hungarian,	....	....	....	....	....	....	....	....	....	....	1	....	1
Lithuanian,	....	....	2	2	3	....	....	1	....	....	....	2	10
Austrian,	....	....	....	....	....	....	....	1	....	....	....	....	1
Greek,	....	1	....	1	....	....	....	....	....	....	....	....	2
Totals,	2	2	2	5	4	3	....	3	1	1	2	4	29

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	....	....	....	....	....	....	1	.	..	1	[illegible]
Welsh,	....	....	....	....	....	....	1	....	....	....	....	...	1
German,	....	....	....	....	....	....	1	....	....	....	....	....	1
Polish,	3	....	....	1	1	....	....	1	....	....	3	2	11
Hungarian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Lithuanian,	2	2	2	....	....	5	....	2	....	1	2	1	17
Austrian,	1	....	....	....	....	....	....	....	....	....	1	....	2
Greek,	....	....	1	....	....	....	....	....	....	....	....	....	1
Totals,	6	2	4	1	1	5	2	3	1	1	[illegible]	4	36

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.,																
West Shenandoah Colliery:																
West Shenandoah, ...	Slope,.....	Gaseous, ..	2 Fans, .	18 21	6.6 7.0	6.0 6.0	70 90	1 3	Guibal, .	Steam,......	..	13	111,368	68,738	118,993	277
Kohinoor Colliery:																
Kohinoor, ...	Shaft,.....	Gaseous, ..	Fan, ...	18	6.0	4.5	75	1.4	Guibal, ..	Steam,......	..	8	53,927	35,265	55,217	155
Turkey Run Colliery:																
Turkey Run No. 1, ...	Drift,.....	Gaseous, ..	Fan, ...	21	7.0	4.5	90	3	Guibal, ..	Steam,......		17	115,710	53,090	119,810	548
Turkey Run No. 5, ...	Slope,.....	Gaseous, ..	Fan, ...	21	7.0	4.5	90	3	Guibal, ..	Steam,......						
Turkey Run No. 8, ...	Slope,.....	Gaseous, ..	Fan, ...	8			184	.8	Guibal, ..	Electricity,.						
Turkey Run No. 2, ...	Drift, ...	Non-gas., .	Natural, ..	......	.....	......	......	......	....	....	..	1	173,403	116,960	174,101	
Shenandoah City Colliery:																
Shenandoah City, ...	Shaft,.....	Gaseous, ..	Fan, ...	21	7.0	6.5	80	2	Reading, .	Steam,......	..	16	173,403	116,960	174,101	618
Shenandoah City, ...	Slope,.....	Gaseous, ..														
Shenandoah City, ...	Drift, ...	Gaseous, ..	Fan, ...	12	4.0	......	80	......	Guibal, ..	Steam,......	..	1	8,950	5,740	8,990	
Boston Run Colliery:																
Boston Run, ...	Slope,.....	Gaseous, ..	Fan, ...	21	7.0	6.5	80	1.8	Guibal, ..	Steam,......	..	9	52,880	35,860	54,220	221
Draper Colliery:																
Draper, ...	Shaft,.....	Gaseous, ..	2 Fans, ..	18 12	6.6 6.6	6.0 6.0	80 150	1.6 1.6	Guibal, .	Steam,......	..	10	75,840	64,105	80,185	369

Indian Ridge Colliery:																
Indian Ridge, ...	Shaft,...	Gaseous, ..	2 Fans,	18 15	6.0 6.0	4.5 4.5	75	1.1	Guibal, .	Steam,......		8	134,534	71,876	142,798	376
Indian Ridge, Primrose,..	Slope,...		Fan, ...	12	4.0	4.0	45	.3				2	13,940	9,570	14,706	
Indian Ridge Holmes, ...	Slope,...		Fan, ...	12	4.0	4.0	45	.3				1	15,000			
Knickerbocker Colliery:																
Knickerbocker, ...	Slope,.....	Gaseous, ..	2 Fans, ..	12 18	4.0 6.6	4.0 6.0	94 94	1.8 1.8	Guibal, .	Steam..	..	9	64,364	58,939	65,711	294
Gilberton Colliery:																
Gilberton No. 1, ...	Slope,.....	Gaseous, ..	2 Fans, ..	21 21	7.0 7.0	6.0 6.0	74 74	3.5 3.5	Guibal, .	Steam,......	.	10	147,500	97,000	152,500	366
Susquehanna Coal Co.																
William Penn Colliery:																
William Penn, ...	Drift, ...	Non-gas., .	Fan, ...	18	7	9	53	1.6	Guibal, ..	Steam,......	..	3	42,000	27,000	85,000	373
William Penn, ...	Shaft,.....	Gaseous, ..	Fan, ...	18	7	9	85	2.3	Guibal, ..	Steam,......	..	5	81,000	54,000	81,000	
William Penn, ...	Shaft,.....	Gaseous, ..	Fan, ...	18	7	9	22	.8	Vulcan, .	Steam,......	..	2	30,000	21,000	38,000	
Thomas Colliery Co.																
Kehley Run Colliery:																
Kehley Run, Main, ...	Slope,...	Gaseous,	Fan, ...	16	6	5	100	1.5	Guibal, ..	Steam,......	..	10	85,970	64,970	86,405	228
Kehley Run No. 3, ...			Fan, ...	8	4	3	150	1.6	Blackman,	Steam,......	..	4	29,125	20,135	29,340	41
Kehley Run No. 4, ...			Natural, ..	......	......	......	......	......	....	....	..	2	7,385	4,640	7,445	9
Harleigh Brookwood Coal Co.																
Stanton Colliery:																
Stanton Nos. 1 and 2, Buck, ...	Slope,...	Gaseous,	Fan, ...	15	4	4.8	85	2	Guibal, ..	Steam,......		7	38,500	85,000	39,000	203
Stanton, Skidmore, ...			Fan, ...	15	4	4.8	60	1	Guibal, ..	Steam,......			26,000		26,600	
Stanton, Four Foot, ...			Fan, ...	12	5	3.9	75	1.2	Jeffrey, ..	Steam,......			40,000		40,500	
Stanton, Seven Foot, ...			Natural, ..	......	......	......	......	......	....	....	..	..	....	....	....	......
Cambridge Coal Co.																
Cambridge Colliery:																
Cambridge No. 1, ...	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	..	4,500	3,600	4,870	26
Cambridge No. 2, ...	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	..	3,670	2,540	4,020	
Locust Mountain Coal Co.																
Weston Colliery:																
Weston, ...	Drift, ...	Non-gas., .	Fan, ...	5	6	1.6	1,700	......	Buffalo Forge.	Electricity,.	..	1	4,400	3,500	4,770	60

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.						
West Shenandoah, Kohinoor, Turkey Run, Shenandoah City, Boston Run, Draper, Indian Ridge, Knickerbocker, Gilberton,	Schuylkill,	W. J. Richards, General Manager.	Pottsville,	Reese Tasker,	Pottsville,	P. and R.
Susquehanna Coal Co.						
William Penn,	Schuylkill,	Robert A. Quin,	Wilkes-Barre,	Edward A. VanHorn,	Shaft,	Pennsylvania
Thomas Colliery Co.						
Kehley Run,	Schuylkill,	Frank A. Hill,	Pottsville,	John Price,	Shenandoah,	P. and R.
Harleigh Brookwood Coal Co.						
Stanton,	Schuylkill,	Frank A. Hill,	Pottsville,	John Price,	Shenandoah,	P. and R.
Cambridge Coal Co.						
Cambridge,	Schuylkill,	D. R. James,	Shenandoah,	D. R. James,	Shenandoah,	P. and R.
Locust Mountain Coal Co.						
Weston,*	Schuylkill,	T. M. Dodson,	Shenandoah,	B. H. Stockett,	Shenandoah,	Lehigh Valley
H. H. Smith and Co.						
Hudson Washery,	Schuylkill,	Godfrey Laudeman,	Pottsville,	Godfrey Laudeman,	Pottsville,	P. and R.
Oxford Coal Co.						
Oxford Washery,	Schuylkill,	Frank A. Hill,	Pottsville,	F. L. Kloch,	Shenandoah,	P. and R.

*New operation.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.													
West Shenandoah,	Schuylkill,	476,851	64,583	5	541,439	264	566	2	6	41,875	30,591	8,312	32
Kohinoor,							221	......	......	17,475	14,159	....	18
Turkey Run,							654	4	1	36,800	37,667	....	38
Shenandoah City,	Schuylkill,	217,866	44,465	48,998	311,329	266	849	4	3	38,800	41,660	27,512	70
Boston Run,		188,688	43,441	....	232,129	256	365	1	4	16,025	92,779	....	15
Draper,		192,395	24,270	....	216,665	253	588	4	4	5,175	103,053	16,850	44
Indian Ridge,		170,685	15,570	....	186,255	266	457	1	4	71,300	39,744	....	53
Knickerbocker,		157,204	3,986	....	161,190	266	383	4	2	3,475	25,467	35,681	43
Gilberton,		78,102	18,757	3,835	100,694	166	608	2	1	17,150	66,012	12,725	48
Totals,	....	1,481,791	215,072	52,838	1,749,701	......	4,691	22	25	248,075	451,132	101,080	361
Susquehanna Coal Co.													
William Penn,	Schuylkill,	287,977	36,596	2,479	327,052	265	592	......	6	45,150	72,517	....	63
Thomas Colliery Co.													
Kehley Run,	Schuylkill,	261,485	19,250	7,375	288,110	277	491	1	4	60,350	37,290	....	37
Harleigh Brookwood Coal Co.													
Stanton,	Schuylkill,	143,473	30,269	36	173,778	288	435	4	......	....	96,325	....	34
Cambridge Coal Co.													
Cambridge,	Schuylkill,	73,705	4,678	341	78,724	275	105	......	......	2,500	2,425	4,925	6

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Locust Mountain Coal Co. Weston,	Schuylkill,	....	2,500	....	2,500	210	450	1	1	34,550	80,700	....	......
H. H. Smith and Co. Hudson Washery,	Schuylkill,	66,280	3,425	....	69,705	208	39	......	......	....	....	....	......
Oxford Coal Co. Oxford Washery,	Schuylkill,	18,855	1,495	....	20,350	69	76	1	......	....	800	....	1
Grand totals,	....	2,333,566	313,285	63,069	2,709,920	......	6,879	29	36	390,625	741,189	106,005	502

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	......	......	116	14,850	14,850	18	7	7	237	30,763	21	31,411	9,098	4	10
Susquehanna Coal Co.,		......	......	15	2,300	2,300	1	......	......	20	1,600	......	1,300	969	......	1
Thomas Colliery Co.,		......	......	13	1,950	1,950	4	......	......	13	1,213	4	5,000	4,000	......	......
Harleigh Brookwood Coal Co.,		......	......	5	1,750	1,750	2	......	......	12	2,750	5	7,570	2,830	......	2
Cambridge Coal Co.,		......	......	4	500	500	1	......	......	7	300	......	......	......	......	......
Locust Mountain Coal Co.,		......	......	6	250	250	11	......	1	......	......	......	......	......	......	2
H. H. Smith and Co.,		......	......	3	375	375	......	......	......	7	244	......	......	......	......	......
Oxford Coal Co.,		......	......	4	500	500	5	......	......	5	375	......	......	......	......	......
Totals,	....	......	......	166	22,475	22,475	42	7	8	301	37,245	30	45,281	16,897	4	15

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Philadelphia and Reading Coal and Iron Co., ...	Schuylkill,	8	60	....	669	764	199	28	23	754	719	3,224	....	14	50	225	143	78	28	929	1,467	4,691
Susquehanna Coal Co., ...		1	1	11	134	72	42	23	8	11	70	373	1	1	33	27	34	7	7	109	219	592
Thomas Colliery Co., ...		1	1	4	120	66	13	8	4	61	....	278	1	1	8	23	41	14	4	121	213	491
Harleigh Brookwood Coal Co.		1	1	3	90	51	9	1	6	41	....	203	1	3	17	28	15	4	3	161	232	435
Cambridge Coal Co., ...		1	1	....	11	11	1	....	....	1	....	26	1	1	3	10	22	1	2	39	79	105
Locust Mountain Coal Co.,.		....	....	....	......	....	....	....	....	....	60	60	2	10	64	23	....	....	4	287	390	450
H. H. Smith and Co., ...		....	....	....	......	....	....	....	....	....	....	......	1	1	3	8	2	1	1	22	39	39
Oxford Coal Co., ...		....	....	....	......	....	....	....	....	....	....	......	1	1	3	14	8	6	1	42	76	76
Totals, ...	....	12	64	18	1,024	964	264	60	41	868	849	4,164	8	32	181	358	265	111	50	1,710	2,715	6,879

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	25	22	19	25	24	25	17	13	16	21	20	21	248
Susquehanna Coal Co.,		24	22	21	24	22	24	17	22	23	24	21	21	265
Thomas Colliery Co.,		24	23	18	22	21	24	24	23	24	25	22	27	277
Harleigh Brookwood Coal Co.,		25	24	24	25	24	25	22	23	25	25	23	23	288
Cambridge Coal Co.,		26	23	14	21	25	24	22	23	25	26	22	24	275
Locust Mountain Coal Co.,		*	......	......	......	......	......	......	......	......	......	......	......	......

*Breaker in course of construction.

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 11	Anthony Luto, ...	Polish, ...	Miner, ...	34	M.	1	2	Shenandoah City.	Schuylkill, .	Killed by falling timber knocked out by derailed car.
22	Stiney Savage, ...	American,...	Miner, ...	28	S.	....	....	Kehley Run, ..		Killed by blast.
Feb. 10	Winfield Major, ...	American,...	Patcher, ...	15	S.	....	....	Oxford Washery		Killed by falling under car and being run over. Outside.
11	Thomas Sminco, ...	Greek, ...	Laborer, ...	20	S.	....	....	Turkey Run, ..		Killed by fall of slate near face of gangway.
March 7	William Kolonofsky, .	Lithuanian,	Miner, ...	40	M.	1	2	Draper, ...		Killed by being suffocated by after-damp.
27	Joseph Alberta, ...	Lithuanian,	Laborer, ...	21	S.	....	....	Turkey Run, ..		Killed by cars on slope.
April 3	Andrew Bisco, ...	Greek, ...	Miner, ...	58	M.	1	3	West Shenandoah.		Killed by falling timber on manway.
5	George Comevousky, ..	Lithuanian,	Miner, ...	29	M.	1	....	Knickerbocker,		Killed by fall of coal in breast.
12	Peter Stremick, ...	Lithuanian,	Top man, ...	21	S.	....	....	Knickerbocker,		Fatally injured by having heel crushed under car. Outside.
16	James Farrell, ...	American,...	Driver, ...	18	S.	....	....	Gilberton, ...		Killed by being crushed between car and timber on gangway.
19	William Williams, ...	American,...	Door boy, ...	18	S.	....	....	Draper, ...		Killed by fall of rock.
May 7	Charles Lobanovage, .	Lithuanian,	Miner, ...	50	M.	1	1	Gilberton, ...		Instantly killed by blast.
14	George Burka, ...	Lithuanian,	Miner, ...	27	M.	1	1	Shenandoah City.		Killed by fall of rock on gangway.
20	Adam Vincavage, ...	Polish, ...	Laborer, ...	30	S.	....	....	Shenandoah City.		Killed by falling off cage down shaft.
23	William Polinavage, .	Lithuanian,	Miner, ...	25	M.	1	3	Draper, ...		Killed by blast.
June 16	Frank Slovohavage, .	Polish, ...	Miner, ...	43	M.	1	3	Turkey Run, ..		Killed by fall of rock.
17	George Goodhead, ...	English, ...	Roadman, ...	60	S.	....	....	West Shenandoah.		Killed by being caught between door and cars.
24	Frank Pusnock, ...	Polish, ...	Miner, ...	30	M.	1	3	Knickerbocker,		Killed by falling down manway.
Aug. 13	Frank Motzk, ...	Austrian, ...	Laborer, ...	30	M.	1	2	Stanton, ...		Killed by fall of coal in gangway.
21	Anthony Vocolavage, .	Lithuanian,	Miner, ...	37	S.	....	....	Stanton, ...		Killed by fall of coal at face of breast.
25	Anthony Morriss, ...	Polish, ...	Miner, ...	35	M.	1	2	Turkey Run, ..		Killed by fall of coal near face.
Sept. 21	Oscar Hahn, ...	American,...	Laborer, ...	25	S.	....	....	Weston, ...		Killed by falling from plank while hoisting timber at breaker. Outside.
Oct. 20	Elmer Cobley, ...	American,...	Driver, ...	33	M.	1	3	Stanton, ...		Killed between car and chute.
Nov. 11	Martin Glegura, ...	Polish, ...	Laborer, ...	27	S.	....	....	Shenandoah City.		Killed by falling from cage down shaft.

Nov.	29	John Grabovage, ...	Hungarian,	Laborer, ...	24	M.	1	2	Stanton, ...	Schuylkill, .	Killed by falling from sinking boat to bottom of slope.
Dec.	2	Joseph Pavenus, ...	Lithuanian	Miner, ...	27	M.	1	1	Knickerbocker,		Killed by being struck in stomach by pick handle.
	11	Patrick Sherry, ...	American,...	Miner, ...	42	M.	1	1	Draper, ...		Killed by falling down chute to breast.
	12	Charles Yepcavage, ...	Irish, ...	Laborer, ...	26	M.	1	....	Boston Run, ..		Killed by fall of timber on gangway.
	24	John Biefsky, ...	Lithuanian,	Miner, ...	56	M.	1	....	Indian Ridge, .		Fatally injured by fall of coal at face of breast.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	3	Frank Analavage, ...	Lithuanian,	Miner, ...	28	S.	Knickerbocker, ...	Schuylkill,	Face and hands burned by explosion of gas.
	4	Wasil Chicavage, ...	Austrian, ...	Laborer, ...	30	M.	West Shenandoah, ...		Head cut and body injured by piece of coal rolling on him.
	18	Sul. Godlefsky, ...	Polish, ...	Miner, ...	31	S.	Boston Run, ...		Burned by gas.
	24	John Reppy, ...	Polish, ...	Laborer, ...	29	M.	Turkey Run, ...		Hip injured by collar falling on him while timbering.
	27	Anthony Mercinkewicz,	Polish, ...	Miner, ...	48	M.	William Penn, ...		Head and face burned by gas.
	31	William Visuopcky, ..	Lithuanian,	Laborer, ...	24	M.	Draper, ...		Leg broken by fall of coal at face of gangway.
Feb.	13	George Balukis, ...	Lithuanian,	Miner, ...	32	M.	William Penn, ...		Burned by gas.
		Charles Obentis, ...	Lithuanian,	Miner, ...	30	M.			
March	7	Metro Richardson, ...	Lithuanian,	Miner, ...	29	M.	Draper, ...		Burned by gas.
		William Markus, ...	Greek, ...	Miner, ...	26	M.			
		Metro Kupsha, ...	Hungarian,	Laborer, ...	21	S.			
	17	Matthew Nowalis, ...	Lithuanian	Miner, ...	30	S.	William Penn, ...		Bruised about chest and shoulders by fall of coal.
April	30	Paul Cheslofcofskie, .	Polish, ...	Miner, ...	30	M.	West Shenandoah, ...		Jaw fractured and face lacerated by piece of flying coal from blast.
May	2	Frank Lipanovage, ..	Polish, ...	Miner, ...	28	M.	West Shenandoah, ...		Bruised about back and chest by fall of slate on gangway.
June	3	Joseph Stancavage, ..	Lithuanian,	Laborer, ...	49	M.	Indian Ridge, ...		Back injured by falling from ladder.
	14	John Patrops, ...	Lithuanian,	Miner, ...	41	S.	Gilberton, ...		Leg fractured by fall of rock at face of breast.
	17	Mat Miller, ...	Lithuanian,	Miner, ...	40	M.	Boston Run, ...		Burned by gas at face of breast.
		Michael Anderscavage,	Lithuanian,	Miner, ...	33	M.			
	20	Felix Slash, ...	Lithuanian,	Laborer, ...	20	S.	Kehley Run, ...		Leg fractured by piece of timber rolling on it.
July	24	John Gilpin, ...	Welsh, ...	Laborer, ...	26	S.	Shenandoah City, ...		Rib fractured between car and rib of gangway.
		Frank Applegate, ...	German, ...	Timber cutter, ...	36	M.	Indian Ridge, ...		Leg fractured by piece of timber rolling on it. Outside.
Aug.	13	Michael Harvitskie, .	Lithuanian,	Miner, ...	30	S.	Kehley Run, ...		Pelvic bone fractured and leg lacerated by fall of coal near face.
	14	Matthew Kronk.	Polish.	Runner, ...	20	S.	Shenandoah City, ...		Foot severely crushed by wheel of car.

Aug.	25	William Powalkus, ...	Lithuanian,	Miner, ...	43	M.	Kehley Run, ...	Schuylkill, .	Arm fractured and head lacerated by fall of slate.
Sept.	5	John Watters, Jr., ..	American,...	Brakeman, ...	18	S.	Weston, ...		Head and face lacerated by being struck by stand pipe while riding on outside of locomotive. Outside.
Oct.	28	Stiney Levitsky, ...	Lithuanian,	Miner, ...	46	M.	Indian Ridge, ...		Skull fractured by fall of coal at face of breast.
Nov.	3	Simon Korcus, ...	Lithuanian,	Miner, ...	47	M.	William Penn, ...		Three fingers torn off by rush of coal.
	4	Michael Yonsia, ...	Polish, ...	Laborer, ...	30	M.	Indian Ridge, ...		Thigh bone fractured by fall of coal at face of gangway.
	22	Steven Trichock, ...	Polish, ...	Laborer, ...	27	M.	Boston Run, ...		Squeezed between trip of moving cars and face of gangway.
	24	Simon Dotkin, ...	Lithuanian,	Laborer, ...	51	M.	West Shenandoah, ...		Squeezed between car and piece of timber. Outside.
	28	Stiney Cusmer, ...	Polish, ...	Timberman, ...	42	M.	Shenandoah City, ...		Leg fractured by being squeezed between empty and loaded cars. Outside.
	29	Thomas Kowbinski, ..	Austrian, ...	Miner, ...	36	M.	West Shenandoah, ...		Head and face lacerated by blast.
Dec.	13	Anthony Druscofsky, .	Polish, ...	Miner, ...	29	S.	Knickerbocker, ...		Hand, face and body injured by explosion of dynamite on gangway.
	22	Peter Bennett, ...	Lithuanian,	Driver, ...	22	S.	Kehley Run, ...		Arm fractured and hip dislocated by being caught between door and car on gangway.
	30	Frank Eckley, ...	American,...	Loader boss, ...	26	S.	William Penn, ...		Ribs fractured by falling from cars on gangway.
	31	Peter Grokis, ...	Polish, ...	Laborer, ...	45	M.	West Shenandoah, ...		Arm broken by being caught between car and rib on slope.

CONDITION OF COLLIERIES

PHILADELPHIA AND READING COAL AND IRON COMPANY

West Shenandoah, Kohinoor, Turkey Run, Draper, Gilberton, Boston Run, Shenandoah City and Knickerbocker Collieries.—Ventilation, drainage and condition as to safety good.

Indian Ridge Colliery.—Ventilation, drainage and condition as to safety good.

THOMAS COLLIERY COMPANY

Kehley Run Colliery.—Ventilation good; drainage fair; condition as to safety good.

SUSQUEHANNA COAL COMPANY

William Penn Colliery.—Ventilation good; drainage fair; condition as to safety good.

HARLEIGH BROOKWOOD COAL COMPANY

Stanton Colliery.—Ventilation good; drainage fair; condition as to safety good.

CAMBRIDGE COAL COMPANY

Cambridge Colliery.—Ventilation good; drainage fair; condition as to safety good.

IMPROVEMENTS

PHILADELPHIA AND READING COAL AND IRON COMPANY

West Shenandoah Colliery.—Made slope 403 feet through rock on pitch of 20 degrees below Buck Mountain vein to develop Sixth lift; tunnel 217 feet top split to Seven Foot; airway in Buck Mountain vein 280 feet from Fifth to Sixth lift; No. 11 slush bore hole 218 feet deep to Buck Mountain vein; flume 1,000 feet long for changing creek channel; steam driven rock crusher and slush lines for crushing mine rock and conveying slush to the various bore holes; 43,003 cubic yards of slush ran into this mine in 1913.

Kohinoor Colliery.—Made tunnel from Mammoth to Skidmore 38 feet long; 53,882 cubic yards of slush ran into this mine in 1913.

Turkey Run Colliery.—Made water level tunnel to Primrose vein, 60 feet long; tunnel from Mammoth to Skidmore on water level, 38 feet long; tunnel from Skidmore to Mammoth, West Shenandoah level, 26 feet long.

Shenandoah City Colliery.—Made tunnel from Seven Foot to Bottom split, 43 feet long; tunnel from Skidmore to Seven Foot on Higgins plane, 1,414 feet long; tunnel for landing at foot of Seven Foot plane, 72 feet long; concrete paving in front of breaker, 2,398 square yards.

Boston Run Colliery.—Completed tunnel to Top Split vein from West Bottom split, Fourth lift, near breast No. 18, total length, 245 feet.

Hoisting slope was timbered with steel girders resting on concrete walls for a distance of 24 feet from mouth.

A fireproof hospital was built in Bottom Split vein, Fourth lift, 150 feet west of Tender slope.

A fireproof stable was made in Skidmore vein off west rib of main tunnel, Fourth lift.

Draper Colliery.—Completed traffic tunnel, 147 feet between the East Diamond and East Tracy gangways, North dip, Second lift, at No. 14 breast in Diamond gangway; also Second outlet tunnel 76 feet to Gilberton water shaft from East Diamond, South dip gangway, between Nos. 17 and 18 chutes, to East Orchard, South dip gangway, Second lift, and electric hoist and pole line for timberways in Diamond, Tracy and Little Tracy veins.

Indian Ridge Colliery.—Completed tunnel 73 feet from Buck Mountain to Little Buck No. 5 slope; tunnel 50 feet to Primrose from foot of No. 7 slope; tunnel 195 feet through saddle in No. 7, Primrose slope. Change in creek channel overlying Holmes vein 2,605 feet long and flume for 1,300 feet. Built concrete culvert 759 feet long. 135,329 cubic yards of slush ran into mine in 1913.

Knickerbocker Colliery.—Made rock hole to the Primrose vein in basin from First lift. Completed East Holmes gangway, South dip near breast No. 38; total length 117 feet.

Gilberton Colliery.—Completed turnout tunnel 99 feet at head of proposed underground slope in Seven Foot vein; also tunnel 29 feet to Skidmore vein from West Mammoth vein, Fifth lift, 600 feet east of west pillar line and rock hole 32 feet from Seven Foot to Skidmore vein on line of proposed Skidmore slope, 20 feet west of North Laurel Ridge tunnel. Completed electric power line from Draper Colliery generator house to Gilberton Colliery shaft engine house. Completed air tunnel 176 feet from Seven Foot Monkey to Little Buck Monkey, Sixth lift, 50 feet west of Tender slope. New breaker put into operation on November 24.

SUSQUEHANNA COAL COMPANY

William Penn Colliery.—New powder magazine erected. Completed a two-bucket aerial tramway for handling boiler ashes. Equipped Draeger rescue station, with 3 helmet outfits and a pulmotor. Office entirely remodeled. Partially completed new colliery fireproof shops. Erected storage house. Installed new rolls in breaker and seven roller coal shakers: Installed fire alarm and return signal system in breaker; boiler feed water heating system; built fireproof boiler feed water pump house and steel and concrete boiler house. Made 151-yard tunnel.

LOCUST MOUNTAIN COAL COMPANY

Weston Colliery.—On the strippings: Added to equipment three 70-C Bucyrus steam shovels, three 18-B Bucyrus revolving steam shovels, eleven 20-ton Vulcan locomotives, 54 two-way dump cars, four cubic yards; twenty two-way dump cars, 8 cubic yards; 130 steel mine cars, 135 cubic feet; two 40-horsepower portable boilers, one 50-horsepower portable boiler, six 94 Ingersoll-Sargeant tripod rock drills, one 1,000-gallon per minute electric pump, one 400-gallon per minute electric pump, two 30,000-gallon capacity water tanks for fresh water. Built office and warehouse building, combined, car shop and blacksmith shop combined, one store house and dwelling combined, seven laborers' bunk houses, one oil house containing oil tanks and pumps, one concrete powder magazine. Built 3,800 feet of single track, 60-pound rails, from stripping to head of plane; 1,800 feet of double track plane, 60-pound rails; 1,100 feet of double track from bottom of plane to breaker. Installed one electrically driven combination hoisting and letting down drum for plane tunnel; built 2,928 feet of single track on 8 by 12 foot water level tunnel. Installed two Imperial type Ingersoll-Rand electrically driven air compressors with receivers, capacity 630 cubic feet of air per minute; one 10-horsepower electrically driven pump with motor; one 3-horsepower electrically driven pump with motor; one 20-horsepower motor for driving exhaust fan on tunnel; 3,000 feet of 18-inch steel ventilating pipe in tunnel; one 3-ton storage battery locomotive; one charging outfit for storage battery locomotive.

Breaker:—Built modern anthracite coal breaker, with all latest improved machinery; machinery to be driven exclusively by electric induction motors.

The motor room for main drive motors is of fireproof construction, made of hollow tile, asbestos and cement.

Breaker will be heated throughout by an improved system of heating. One low pressure boiler plant containing two locomotive boilers will be used for heating purposes.

Breaker will be electrically lighted throughout. Built one improved Whiting dump at tip, two electrically driven empty car hoists, 82 foot centers. Installed one 1,000-gallon per minute electrically driven triplex pump for rehandling breaker wash water in a fireproof pump house. Built fully equipped machine and blacksmith shop, one main office building, one colliery warehouse building. Installed first-aid cases, blankets, stretchers, etc., and private telephone lines to all parts of the operation. Fire protection: one Ajax chemical fire engine, twenty Pyrene fire extinguishers, 500 feet of 2½-inch fire hose, six nozzles, three borough standard fire plugs, one borough standard telegraph fire alarm box, one stand pipe system of hydrants.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Union Hall, Pottsville, March 22 and 23. The Board of Examiners was composed of A. B. Lamb, Mine Inspector, Shenandoah; E. A. Rhoads, Superintendent, Shaft; George H. Young, Miner, Shenandoah; George W. Keller, Miner, Ashland.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Shem R. Evans, David E. Davis, Patrick J. McManus, Samuel Yeager, Shenandoah.

ASSISTANT MINE FOREMEN

Roger Sherry, George Heffner, St. Nicholas; Jacob L. Keipe, Jacob Schwartz, Mahanoy City; Patrick H. Cosgrove, William F. Schutz, Daniel Davies, Charles Lewis, William Creedon, Matthew Casserly, Shenandoah; Martin Murphy, Lost Creek; Daniel Malloy, Robert C. Caton, Shaft.

FOURTEENTH DISTRICT

COLUMBIA, SCHUYLKILL AND NORTHUMBERLAND COUNTIES

Centralia, Pa., February 25, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my report as Inspector of Mines for the Fourteenth Anthracite District for the year ending December 31, 1913, as required by the Act of April 14, 1903.

Respectfully submitted,

JAMES A. O'DONNELL,
Inspector.

SUMMARY OF STATISTICS

Number of collieries,	15
Number of mines,	38
Number of mines in operation,	37
Number of tons of coal shipped to market,	2,802,734
Number of tons used at mines for steam and heat,	478,888
Number of tons sold to local trade and used by employes,	48,126
Number of tons produced,	3,329,748
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	4,166
Number of persons employed outside,	2,485
Number of fatal accidents inside of mines,	13
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	37
Number of non-fatal accidents outside,	11
Number of tons of coal produced per fatal accident inside,	256,134
Number of tons produced per fatal accident outside,	1,109,916
Number of tons produced per fatal accident inside and outside,	208,109
Number of persons employed per fatal accident inside,	320
Number of persons employed per fatal accident outside,	828
Number of persons employed per fatal accident inside and outside,	415
Number of persons employed per non-fatal accident inside,	112
Number of persons employed per non-fatal accident outside,	225
Number of persons employed per non-fatal accident inside and outside,	139
Number of wives made widows,	10
Number of children made orphans,	34
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	50
Number of compressed air locomotives used inside,	5
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	27
Number of electric motors used outside,	....
Number of fans in use,	27
Number of furnaces in use,	....
Number of gaseous mines in operation,	27
Number of non-gaseous mines in operation,	10
Number of new mines opened,	....
Number of old mines abandoned,	1

TABLE A

PRODUCTION OF COAL

Names of Operators.	Tons
Lehigh Valley Coal Company,	1,706,235
Philadelphia and Reading Coal and Iron Company,	984,692
Midvalley Coal Company,	304,867
Girard Mammoth Coal Company,	212,756
W. R. McTurk Coal Company,	90,266
Harleigh Brookwood Coal Company,	24,907
Beaver Valley Coal Company,	6,025
Total,	3,329,748

Production by Counties

Schuylkill,	1,911,492
Columbia,	1,084,507
Northumberland,	333,749
Total,	3,329,748

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh Valley Coal Co., ...	12	3	15	18	7	25	142,186	94,790	2,108	990	3,098	175	330	117	141
Philadelphia and Reading Coal and Iron Co., ...	1	......	1	12	2	14	984,692	82,057	1,449	790	2,239	1,449	....	121	395
Midvalley Coal Co., ...	......	......	......	3	......	3	....	101,622	356	205	561	....	....	118	....
Girard Mammoth Coal Co., ...	......	......	......	1	......	1	....	212,756	112	250	362	....	....	112	....
W. R. McTurk Coal Co., ...	......	......	......	......	2	2	....	....	60	194	254	....	....	....	97
Harleigh Brookwood Coal Co., ...	......	......	......	2	......	2	....	12,453	43	18	61	....	....	21	....
Beaver Valley Coal Co., ...	......	......	......	1	......	1	....	6,025	38	38	76	....	....	38	....
Totals and averages for district, ...	13	3	16	37	11	48	256,134	89,993	4,166	2,485	6,651	320	828	113	226

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	2	....	....	....	....	....	....	....	2	15.39
Mine cars,	....	1	....	...	1	....	....	....	....	....	....	...	2	15.39
Blasts, premature and otherwise,	....	....	....	1	....	....	....	....	....	....	....	....	1	7.69
Falling into slopes, etc.,	1	1	....	....	1	....	....	....	....	....	....	....	3	23.08
Struck by drill,	....	....	....	1	....	....	....	....	....	....	....	....	1	7.69
Rush of coal,	....	....	....	....	....	....	1	....	....	1	....	....	2	15.38
Rush of water,	....	....	....	....	....	....	....	....	....	....	1	....	1	7.69
Struck by cage,	....	....	....	....	....	....	....	....	1	....	....	....	1	7.69
Totals,	1	2	....	2	4	....	1	....	1	1	1	....	13	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	....	....	1	....	....	1	33.33
Machinery,	....	....	....	....	1	....	....	....	....	....	....	....	1	33.33
By falling,	1	....	....	....	....	....	....	....	....	....	....	....	1	33.34
Totals,	1	....	....	....	1	....	....	....	....	1	....	....	3	100.00
Grand totals inside and outside,	2	2	....	2	5	....	1	....	1	2	1	....	16	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	1	1	....	3	....	....	....	1	2	8	21.62
Falls of roof,	....	....	1	....	....	....	....	....	....	....	....	....	1	2.71
Mine cars,	....	1	....	....	1	....	1	2	....	....	1	2	8	21.62
Explosions of gas,	....	....	....	....	....	....	2	....	....	1	....	....	3	8.11
Explosions of powder and dynamite,	....	....	....	....	....	....	....	1	....	....	....	....	1	2.70
Blasts, premature and otherwise,	....	....	....	1	....	....	....	....	....	....	1	....	2	5.41
Crushed at batteries,	....	....	....	....	1	....	....	....	....	....	....	....	1	2.70
Struck by timber,	1	....	....	....	....	....	....	1	....	....	....	....	2	5.41
Struck by coal,	2	....	1	....	....	....	....	....	....	....	....	....	3	8.11
Struck by cage,	1	....	....	....	....	....	....	....	....	....	....	....	1	2.70
Struck by pump,	....	....	....	1	....	....	....	....	....	....	....	....	1	2.70
Struck by lever,	....	....	....	....	....	1	....	....	....	....	....	....	1	2.70
Struck by piece of iron	....	....	....	....	....	....	....	1	....	....	....	....	1	2.70
Struck by rock,	....	....	....	....	....	....	....	....	....	1	....	....	1	2.70
Rush of water,	....	....	....	....	....	....	....	....	....	....	1	....	1	2.70
By falling,	....	....	....	....	....	....	....	....	....	....	1	1	2	5.41
Totals,	4	1	2	3	3	1	6	5	....	2	5	5	37	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	1	....	....	....	....	1	....	1	3	27.28
Machinery,	1	....	....	....	1	....	....	....	....	....	....	....	2	18.18
Struck by jack,	....	....	....	1	....	....	....	....	....	....	....	....	1	9.09
Explosion of dynamite cap,	....	....	....	....	....	1	....	....	....	....	....	....	1	9.09
By falling,	....	....	....	....	....	....	....	....	1	1	....	....	2	18.18
Scalded by steam,	....	....	....	....	....	....	....	....	....	1	....	....	1	9.09
Rush of coal,	....	....	....	....	....	....	....	....	....	1	....	....	1	9.09
Totals,	1	....	....	1	2	1	....	....	1	4	...	1	11	100.00
Grand totals inside and outside,	5	1	2	4	5	2	6	5	1	6	5	6	48	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	1	....	1	3	....	1	....	....	1	1	....	8
Repairmen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Motor helpers,	....	1	....	....	1	....	....	....	....	....	....	....	2
Machine runners,	....	....	....	1	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	1	2	....	2	4	....	1	....	1	1	1	....	13
Outside													
Lokie patchers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	1	....	....	....	1	....	....	....	....	....	....	....	2
Totals,	1	....	....	....	1	....	....	....	....	1	....	....	3
Grand totals inside and outside,	2	2	....	2	5	....	1	....	1	2	1	....	16

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	....	1	2	1	....	2	2	....	1	5	3	18
Miners' laborers,	1	....	1	1	....	....	3	....	....	1	....	....	7
Drivers and runners,	....	1	....	....	....	1	1	1	....	....	....	1	5
Loaders,	1	....	....	....	....	....	....	1	....	....	....	....	2
Timbermen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Starters,	....	....	....	....	1	....	....	1	....	....	....	....	2
Footmen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Door boys and helpers,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	4	1	2	3	3	1	6	5	....	2	5	5	37
Outside													
Blacksmiths and carpenters,	....	....	....	....	1	....	....	....	....	....	....	....	1
Slatepickers (boys),	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	1	....	....	1	1	1	....	....	....	1	....	1	6
Spraggers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Drivers,	....	....	....	....	....	....	....	....	....	1	....	....	1
Runners,	....	....	....	....	....	....	....	....	....	1	....	....	1
Totals,	1	....	....	1	2	1	....	....	1	4	....	1	11
Grand totals inside and outside,	5	1	2	4	5	2	6	5	1	6	5	6	48

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	1	....	....	2	....	....	....	....	1	....	....	5
Irish,	1	....	....	....	....	....	....	....	....	....	1	....	2
Polish,	....	....	....	1	1	....	....	....	....	....	....	....	2
Slavonian,	....	....	....	....	1	....	....	....	....	....	....	....	1
Lithuanian,	....	1	....	....	1	....	....	....	....	....	....	....	2
Austrian,	....	....	....	....	....	....	1	....	1	....	....	....	2
Russian,	....	....	....	1	....	....	....	....	....	1	....	....	2
Totals,	2	2	....	2	5	....	1	....	1	2	1	....	16

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	2	1	....	2	3	....	2	3	1	2	1	3	20
English,	....	....	....	....	1	....	....	....	....	....	....	....	1
Welsh,	....	....	....	....	....	....	....	1	....	....	....	....	1
German,	....	....	....	....	....	....	....	....	....	1	1	....	2
Polish,	2	....	....	2	1	....	1	....	....	....	1	....	7
Italian,	....	....	....	....	....	....	....	....	....	2	....	1	3
Lithuanian,	....	....	1	....	....	1	1	1	....	....	1	....	5
Austrian,	....	....	1	....	....	....	1	....	....	1	....	1	4
Russian,	1	....	....	....	....	1	1	....	....	....	1	1	5
Totals,	5	1	2	4	5	2	6	5	1	6	5	6	48

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lehigh Valley Coal Co.															
Centralia Colliery:															
Centralia, ...	Slope, ..	Gaseous, ..	Fan, ...	15	5	5	75	.5	Guibal, ...	Steam, ...	6	68,000	68,000	70,000	106
Continental, ...	Shaft, ...		Fan, ...	20	5.10	6.8	61	.5	Guibal, ...	Steam, ...	3	20,000	20,000	22.000	44
Locust Run, ...	Slope, ..		Fan. ...	6	4.8	1	154	.4	Buffalo, ...	Electricity, .	4	30,000	30,000	31,000	54
Sayre Colliery:															
Sayre, ...	Shaft, ...	Gaseous, ..	Fan, ...	20	6.8	6.1	60	1	Guibal, ...	Steam, ...	8	42,000	42,000	44,000	79
Sioux, ...	Slope, ..		Fan, ...	16	4.8	5	85	.6		Steam, ...	10	69,000	69,000	72,000	126
Morris Ridge, ...	Slope, ..		Fan. ...	12	4.6	2.9	80	.5		Gasoline, ...	2	24,000	24,000	25,000	37
Bellmore, ...	Drift, ...		Fan, ...	7	2.9	1.10	150	.25		Steam, ...	3	9,000	9,000	10,000	25
Packer No. 2 Colliery:															
Packer No. 2, ...	Slope, ...	Gaseous, ..	Fan, ...	20	6	5.6	68	1	Guibal, ...	Steam, ...	5	68,000	68,000	70,000	141
Packer No. 3 Colliery:															
Packer No. 3, ...	Slope, ...	Gaseous, ..	Fan, ...	18	6.1	5.4	70	.6	Guibal, ...	Steam, ...	10	99,000	99,000	102,000	158
Packer No. 4 Colliery,															
Packer No. 4, ...	Slope, ...	Gaseous, ..	Fan, ...	20	6.9	5.11	62	1	Guibal, ...	Steam, ...	11	81,000	81,000	83,000	191
Packer No. 5 Colliery:															
Packer No. 5, ...	Shaft, ...	Gaseous, ..	Fan, ...	20	6	5.6	73	1.3	Guibal, ...	Steam, ...	9	92,000	92,000	94,000	146
Packer No. 5, ...	Drift, ...	Gaseous, .	Fan, ...	15	4.1	4.7	80	.6	Guibal, ...	Steam, ...	9	78,000	78,000	81,000	224
Philadelphia and Reading Coal and Iron Co.															
Hammond Colliery:															
Hammond, ...	Shaft, ...	Gaseous, ..	Fan, ...	21	7	6	40	2.2	Guibal, ...	Steam, ...	10	75,000	75,000	78,000	111
Hammond, ...	Slope, ...	Gaseous, ..	Fan, ...	21	7	6	40	2.2	Guibal, ...	Steam, ...	6	75,000	75,000	78,000	112
Hammond Nos. 1, 2, 3 and 4, ...	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	....	....	....	....	....
Hammond. Top Split. ..	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	....	....	....	....	....

Bast Colliery:															
Bast,	Slope,	Gaseous,	Fan,	21	7	6	85	2.4	Guibal,	Steam,	4	77,000	77,000	80,000	112
Bast Nos. 2, and 6,	Drift,	Gaseous,	Fan,	21	7	6	85	2.2	Guibal,	Steam,	4	77,000	77,000	80,000	83
Potts Colliery:															
Potts Mammoth,	Slope,	Gaseous,	2 Fans,	18	6	5	70	2	Guibal,	Steam,	6	70,000	70,000	74,000	185
Potts Primrose,	Slope,	Gaseous,	Fan,	21	7	6	70	1	Guibal,	Steam,	6	55,000	55,000	57,000	190
Bear Ridge Colliery:															
Bear Ridge,	Slope,	Gaseous,	Fan,	18	6	4.6	80	1.8	Guibal,	Steam,	4	60,000	60,000	62,000	32
Midvalley Coal Co.															
Midvalley Colliery:															
Midvalley No. 1,	Slope,	Gaseous,	2 Fans,	18 16	5.6 4.6	5 4	75	1	Vulcan,	Steam,	6	120,000	120,000	123,000	211
Midvalley No. 2,	Slope,	Gaseous,	Fan,	24	8	7	64	1			6	70,000	70,000	74,000	139
Midvalley No. 4,	Drift,	Gaseous,	Fan,	16	4.6	4.10	71	1.2			1	10,200	10,200	11,000	6
Midvalley Nos. 2 and 5,	Drift,	Non-gas.,	Natural,	......	......	......	......	......	....	....	....	....	....	....	....
Girard Mammoth Coal Co.															
Girard Mammoth Colliery:															
Girard Mammoth,	Slope,	Gaseous,	Fan,	8	2.10	1.10	90	.6	Buffalo,	Steam,	2	10,000	10,000	11,000	12
Girard Mammoth,	Drift,	Gaseous,	Fan,	18	6	6	45	.3	Guibal,	Electricity,	2	40,000	40,000	41,000	100
W. R. McTurk Coal Co.															
Girard Bear Ridge Colliery:															
Girard Bear Ridge,	Slope,	Gaseous,	Fan,	12	5	4	120	2	Guibal,	Steam,	3	40,000	40,000	42,000	60
Harleigh Brookwood Coal Co.															
West Bear Ridge Colliery:															
West Bear Ridge,	Drift, Slope,	Non-gas.,	Natural,	......	......	......	......	......	....	....	....	....	....	....	....
Beaver Valley Coal Co.															
Scotch Valley Colliery:															
Scotch Valley,	Drift,	Non-gas.,	Natural,	......	......	......	......	......	....	....	....	....	....	....	....

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh Valley Coal Co.						
Centralia,	Columbia,	Thomas Thomas,	Wilkes-Barre,	H. J. Heffner,	Centralia,	Lehigh Valley
Sayre,	Northumberland.					
Packer No. 2,	Schuylkill,					
Packer No. 3,	Schuylkill,					
Packer No. 4,	Schuylkill,					
Packer No. 5,	Schuylkill,					
Philadelphia and Reading Coal and Iron Co.						
Hammond,	Schuylkill,	W. J. Richards, General Manager.	Pottsville,	Reese Tasker,	Pottsville,	P. and R.
Bast,	Schuylkill,					
Potts,	Columbia,					
Bear Ridge,	Schuylkill,					
Midvalley Coal Co.						
Midvalley,	Columbia,	T. E. Snyder,	Hazleton,	H. D. Kostenbauder,	Wilburton,	Lehigh Valley
Girard Mammoth Coal Co.						
Girard Mammoth,	Schuylkill,	Timothy Cockill,	Mahanoy City,	William Palmer,	Mahanoy City,	P. and R.
W. R. McTurk Coal Co.						
Girard Bear Ridge,	Schuylkill,	W. R. McTurk,	Philadelphia, 313-314 Pennsylvania Bldg.	E. M. Lamb,	Girardville,	P. and R.
Harleigh Brookwood Coal Co.						
West Bear Ridge,	Schuylkill,	Frank A. Hill,	Pottsville,	John Price,	Shenandoah,	P. and R.
Beaver Valley Coal Co.						
Scotch Valley,	Columbia,	Grafflin Cook,	Baltimore, Md.,	William S. Pugh,	Pottsville,	Pennsylvania

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh Valley Coal Co.													
Centralia,	Columbia,	369,590	62,487	5,231	437,308	254	778	5	5	....	191,475	....	72
Sayre,	Northumberland,	261,468	68,746	3,535	333,749	248	702	4	7	6,275	175,786	....	37
Packer No. 2,*	Schuylkill,	131,170	18,840	....	150,010	260	249	......	......	9,200	43,852	....	18
Packer No. 3,*	Schuylkill,	192,422	16,850	....	209,272		281	1	1	13,025	37,297	....	30
Packer No. 4,	Schuylkill,	115,289	64,590	9,620	189,499		518	2	4	66,400	21,543	....	19
Packer No. 5,*	Schuylkill,	367,580	18,817	....	386,397		570	3	8	57,150	164,632	....	27
Totals,	....	1,437,519	250,330	18,386	1,706,235	......	3,098	15	25	152,050	634.585	....	203
Philadelphia and Reading Coal and Iron Co.													
Hammond,	Schuylkill,	322,769	45,244	7,306	375,319	245	781	......	3	300	68,035	54,719	42
Bast,	Schuylkill,	205,378	54,077	10,207	269,662	255	707	1	6	450	102,138	23,651	98
Potts,	Columbia,	287,466	40,826	8,015	336,307	264	704	......	4	....	61,294	43,650	96
Bear Ridge,	Schuylkill,	....	3,404	....	3,404	......	47	......	1	....	1,069	....	7
Totals,	....	815,613	143,551	25,528	984,692	......	2,239	1	14	750	232,536	122,020	243
Midvalley Coal Co.													
Midvalley,	Columbia,	265,477	36,500	2,890	304,867	214	561	......	3	800	173,300	....	58
Girard Mammoth Coal Co.													
Girard Mammoth,	Schuylkill,	186,856	25,000	900	212,756	264	362	......	1	48,250	40,380	....	20

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*Coal prepared at Packer No. 4.

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
W. R. McTurk Coal Co. Girard Bear Ridge, ...	Schuylkill, ...	68,941	21,289	36	90,266	201	254	......	2	....	21,725	....	26
Harleigh Brookwood Coal Co. West Bear Ridge, ...	Schuylkill, ...	23,963	944	....	24,907	288	61	......	2	....	17,225	....	5
Beaver Valley Coal Co. Scotch Valley, ...	Columbia, ...	4,365	1,274	386	6,025	49	76	......	1	1,250	2,250	....	4
Grand totals, ...	....	2,802,734	478,888	48,126	3,329,748	......	6,651	16	48	203,100	1,122,001	122,020	559

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Lehigh Valley Coal Co., ...	Columbia, ... Schuylkill, ...	15	535	54	10,700	11,255	12	......	25	165	16,867	18	22,120	16,173	4	2
Philadelphia and Reading Coal and Iron Co.	Northumberland, Schuylkill, ... Columbia, ...	17	516	52	6,500	7,016	13	5	......	125	16,827	20	18,378	7,141	1	5
Midvalley Coal Co., ...	Columbia, ...	......	......	16	3,000	3,000	10	......	......	10	889	7	7,830	7,830	......	1
Girard Mammoth Coal Co., ...	Schuylkill, ...	......	......	8	1,600	1,600	10	......	2	3	337	5	6,000	6,000	1	......
W. R. McTurk Coal Co.,........	Schuylkill, ...	......	......	9	2,430	2,430	5	......	......	17	1,625	2	600	575	......	2
Harleigh Brookwood Coal Co.,..	Schuylkill, ...	......	......	1	100	100	....	......	......	1	70	1	100	35	......	......
Beaver Valley Coal Co., ...	Columbia, ...	......	......	3	320	320	....	......	......	3	105	....	....	....	......	......
Totals, ...	....	32	1,071	143	24,650	25,721	50	5	27	324	36,720	53	55,028	37,754	6	10

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh Valley Coal Co., ..	Columbia, ... Schuylkill, ... Northumberland,	15	54	....	701	543	96	41	29	....	629	2,108	1	14	80	141	57	22	14	661	990	3,098
Philadelphia and Reading Coal and Iron Co.	Columbia, ... Schuylkill, ...	5	36	....	240	179	82	44	13	375	475	1,449	....	7	31	105	81	47	12	507	790	2,239
Midvalley Coal Co., ...	Columbia, ...	3	....	6	123	139	19	3	6	57	....	356	1	2	15	22	16	10	3	136	205	561
Girard Mammoth Coal Co.,..	Schuylkill, ...	1	1	1	26	34	9	....	5	35	....	112	1	1	10	30	40	1	2	165	250	362
W. R. McTurk Coal Co.,....	Schuylkill, ...	1	....	....	14	9	1	3	3	15	14	60	1	1	11	28	15	8	2	128	194	254
Harleigh Brookwood Coal Co., ...	Schuylkill, ...	1	....	....	20	13	3	2	2	2	....	43	....	....	....	4	....	....	....	14	18	61
Beaver Valley Coal Co.,.....	Columbia, ...	1	....	....	12	20	2	....	....	3	....	38	1	1	3	3	4	1	1	24	38	76
Totals, ...	....	27	91	7	1,136	937	212	93	58	487	1118	4,166	5	26	150	333	213	89	34	1635	2,485	6,651

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh Valley Coal Co.,	Columbia, Schuylkill,	24	22	13	22	25	24	21	18	20	23	22	20	254
Philadelphia and Reading Coal and Iron Co.,	Northumberland, Columbia, Schuylkill,	25	21	17	25	25	20	19	16	18	25	23	21	255
Midvalley Coal Co.,	Columbia,	25	15	15	17	20	17	17	16	17	19	20	18	214
Girard Mammoth Coal Co.,	Schuylkill,	9	21	16	25	24	25	25	24	25	25	23	22	264
W. R. McTurk Coal Co.,	Schuylkill,	23	16	5	7	20	18	18	16	17	20	21	20	201
Harleigh Brookwood Coal Co.,	Schuylkill,	25	24	24	25	24	25	22	23	25	25	23	23	288
Beaver Valley Coal Co.,	Columbia,	7	8	......	......	....	......	....	......	......	10	18	6	49

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	19	Daniel Fisher, ...	American, ..	Repairman, .	51	M.	1	6	Centralia, ...	Columbia, ...	Killed by falling down main hoisting slope while making repairs to track.
	23	Dominick Monaghan, .	Irish, ...	Laborer, ...	60	S.	....	....	Packer No. 3,.	Schuylkill, ...	Killed by falling on his head into the stripping. Outside.
Feb.	20	Emanuel Williams, ..	American, ..	Miner, ...	45	M.	1	3	Centralia, ...	Columbia, ...	Killed by falling down empty breast when a plank he was standing on broke.
	26	Thomas Putamanskie,	Lithuanian,	Motor helper,	19	S.	....	....	Packer. No. 5,.	Schuylkill, ...	Killed by being caught between derailed car and rib of tunnel.
April	4	Alfonso Sience, ...	Polish, ...	Miner, ...	25	S.	....	....	Packer No. 4,.	Schuylkill, ...	Killed by premature blast.
	10	George Pyda, ...	Russian, ...	Machine runner.	24	M.	1	2	Bast, ...	Schuylkill, ...	Killed by being struck by drill while in shaft sinking.
May	2	John Verbelia, ...	American, ..	Motor helper,	19	S.	....	....	Centralia, ...	Columbia, ...	Killed by being caught between car and timber on gangway.
	6	Thomas Lynch, ...	Polish, ...	Miner, ...	37	M.	1	4	Sayre, ...	Northumberland, .	Killed by falling down breast manway.
	19	Alex Misser, ...	American, ..	Laborer, ...	18	S.	....	....	Packer No. 4,.	Schuylkill, ...	Killed by falling into end of drag line used to load bank coal into cars. Outside.
	31	Simon Kupchinskie, ..	Lithuanian,	Miner, ...	35	M.	1	1	Packer No. 5,.	Schuylkill, ...	Killed by fall of coal at face of pillar robbing.
		Michael Poluko, ...	Slavonian, ..	Miner, ...	34	M.	1	3	Sayre, ...	Northumberland, .	Killed by fall of coal in Mammoth vein.
July	31	John Babish, ...	Austrian, ..	Miner, ...	47	M.	1	2	Centralia, ...	Columbia, ...	Killed by rush of coal in chute.
Sept.	19	Vincent Astutchy, ...	Austrian, ..	Laborer, ...	35	M.	1	1	Sayre, ...	Northumberland, .	Killed by being caught between cage and shaft timber.
Oct.	18	Andro Kranitsky, ...	Russian, ...	Miner, ...	33	M.	1	4	Sayre, ...	Northumberland, .	Killed by rush of coal in chute in Mammoth vein.
	28	John Fago, ...	American, ..	Lokie patcher	18	S.	....	....	Centralia, ...	Columbia, ...	Killed by being crushed between cars in the stripping. Outside.
Nov.	28	Patrick Roland, ...	Irish, ...	Miner, ...	42	M.	1	8	Packer No. 5,	Schuylkill, ...	Killed by rush of water breaking through from old gangway on upper level.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	2	Simon Sonfchuck, ...	Polish, ...	Laborer, ...	30	S.	Sayre, ...	Northumberland, .	Hip fractured by steam shovel falling on him. Outside.
	17	Stiney Gerbuchefski, ..	Polish, ...	Timberman, ...	28	M.	Packer No. 5, ...	Schuylkill, ...	Leg fractured by timber rolling on it.
		James Woods, ...	American, ..	Loader, ...	22	S.	Bast, ...	Schuylkill, ...	Wrist fractured by coal rolling from chute on it.
	24	Robert White, ...	American, ..	Miner, ...	44	M.	Centralia, ...	Columbia, ...	Leg fractured by coal rolling on him from face of breast.
		Charles Lukis, ...	Russian, ...	Laborer, ...	21	S.	Sayre, ...	Northumberland, .	Head crushed by false bottom of shaft cage.
Feb.	21	Joseph Menne, ...	American, ..	Driver, ...	21	S.	Bast, ...	Schuylkill, ...	Two fingers cut off by being caught in car wheel with sprag.
March	11	William Hendricks, .	Austrian, ..	Laborer, ...	31	M.	Bast, ...	Schuylkill, ...	Knee fractured by coal rolling down chute on him.
	19	Joseph Matcheese, ...	Lithuanian,	Miner, ...	21	M.	Packer No. 5, ...	Schuylkill, ...	Chest bruised by fall of rock at face of breast.
April	4	Walter Kruski, ...	Polish, ...	Miner, ...	32	M.	Midvalley, ...	Columbia, ...	Compound fracture of leg by fall of coal at face of breast.
	5	Michael Wishnefsky, ..	Polish, ...	Miner, ...	32	S.	Packer No. 4, ...	Schuylkill, ...	Face and hands lacerated by premature blast.
	15	Edward Casey, ...	American, ..	Laborer, ...	48	M.	Bast, ...	Schuylkill, ...	Arm fractured by jack striking him. Outside.
	2	James Dennery, ...	American, ..	Laborer, ...	27	S.	Packer No. 3, ...	Schuylkill, ...	Ligaments of back torn by pump falling off truck on him.
May	3	Michael Dudon, ...	Polish, ...	Miner, ...	35	M.	Midvalley, ...	Columbia, ...	Arm fractured by fall of coal at face of breast.
	14	Patrick Boylon, ...	American, ..	Laborer, ...	50	S.	Packer No. 4, ...	Schuylkill, ...	Leg fractured by being struck by cars at breaker. Outside.
		John Schmoltze, ...	American, ..	Carpenter, ...	45	M.	Bear Ridge, ...	Schuylkill, ...	Arm fractured by machinery. Outside.
	20	Joseph Hartle, ...	English, ...	Starter, ...	27	S.	Potts, ...	Columbia, ...	Compound fracture of leg by rush of coal at battery.
	29	John Burk, ...	American, ..	Footman, ...	23	S.	Bast, ...	Schuylkill, ...	Leg fractured by being bumped between cars.
June	4	Joseph Kobilis, ...	Lithuanian,	Runner, ...	19	S.	Centralia, ...	Columbia, ...	Arm fractured by dump lever striking him.

TABLE 5.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
June	19	John Chucklo,	Russian,	Laborer,	18	S.	Packer No. 5,	Schuylkill,	Fingers blown off while picking dynamite cap. Outside.
July	8	Englebert Kleman,	American,	Driver,	18	S.	Potts,	Columbia,	Jaw fractured by being caught between car and door frame.
	9	George Kerner,	American,	Miner,	28	M.	Potts,	Columbia,	Face and hands burned by explosion of gas.
		Mat Bronzas,	Lithuanian,	Miner,	29	M.			Face and hands burned by explosion of gas.
	16	William Tomashefskie,	Polish,	Laborer,	19	S.	Scotch Valley,	Columbia,	Leg fractured by fall of coal at face of gangway.
	17	Jacob Daniel,	Russian,	Laborer,	35	M.	Centralia,	Columbia,	Leg fractured by fall of coal at face of gangway.
	18	Steve Hudock,	Austrian,	Laborer,	23	M.	Centralia,	Columbia,	Arm fractured by coal falling on him while placing timber.
Aug.	4	Arthure Shucker,	American,	Starter,	25	M.	Centralia,	Columbia,	Leg fractured by door frame torn out by cars.
	20	John Iffert,	American,	Loader,	22	S.	Hammond,	Schuylkill,	Leg fractured by flying iron from bursting air line.
	21	George Porter,	Lithuanian,	Miner,	28	S.	Girard Mammoth,	Schuylkill,	Hand blown off by explosion of box of dynamite caps.
	30	Dan Loyde,	Welsh,	Miner,	53	M.	Hammond,	Schuylkill,	Leg fractured by old timber falling on him.
		Edward Kellager,	American,	Driver,	20	S.	Sayre.	Northumberland,	Leg cut and bruised by being bumped between cars.
Sept.	9	Condy Gilday,	American,	Spragger,	17	S.	Sayre,	Northumberland,	Arm fractured by falling off mule. Outside.
Oct.	2	Charles Cilend,	Italian,	Laborer,	23	S.	Girard Bear Ridge,	Schuylkill,	Arms burned by steam in boiler house. Outside.
	13	John Zakalo,	American,	Driver,	19	S.	Sayre,	Northumberland,	Arm and leg fractured by rush of coal in stripping. Outside.
	15	William O'Connel,	American,	Slatepicker,	14	S.	Girard Bear Ridge,	Schuylkill,	Arm fractured by falling in breaker. Outside.
	22	Joe. Brown,	Italian,	Runner,	22	S.	Packer No. 4,	Schuylkill,	Finger cut off by being caught in car wheel with sprag. **Outside.**

Oct.	25	John Andrewchisin, ...	Austrian, ..	Miner, ...	34	M.	Packer No. 5, ...	Schuylkill, ...	Face and hands burned by explosion of gas.
	28	Fred Shumber, ...	German, ...	Laborer, ...	30	M.	West Bear Ridge, ..	Schuylkill, ...	Leg fractured by piece of rock rolling on it at face.
Nov.	4	William Morris, ...	Russian, ...	Miner, ...	30	M.	Sayre, ...	Northumberland, .	Arm fractured by fall of coal at face of breast.
	9	James Christ, ...	German, ...	Miner, ...	40	M.	West Bear Ridge, ..	Schuylkill, ...	Leg fractured by falling from top of car.
	13	Matt Noyalaus, ...	Lithuanian,	Miner, ...	28	S.	Hammond, ...	Schuylkill, ...	Leg crushed between cars.
	26	Anthony Dombuskie, ..	Polish, ...	Miner, ...	28	S.	Midvalley, ...	Columbia, ...	Face and hands lacerated by premature blast.
	28	James Sweeney, ...	American, ..	Miner, ...	32	M.	Packer No. 5, ...	Schuylkill, ...	Body bruised by being forced down breast manway by water.
Dec.	3	George Foy, ...	American, ..	Door tender, ...	16	S.	Bast, ...	Schuylkill, ...	Body bruised by being caught between car and timber.
	6	Frank Samanchick, ..	Russian, ...	Miner, ...	34	M.	Packer No. 5, ...	Schuylkill, ...	Arm fractured by fall of coal at face of chute.
	12	Yonick Yelko, ...	Austrain, ..	Miner, ...	26	M.	Packer No. 5, ...	Schuylkill, ...	Wrist fractured by falling down chute.
	23	John Kurell, ...	Italian, ...	Laborer, ...	40	S.	Packer No. 4, ...	Schuylkill, ...	Arm lacerated by being caught between car and chain. Outside.
		Robert Calbert, ...	American, ..	Miner, ...	45	M.	Packer No. 5, ...	Schuylkill, ...	Arm fractured by fall of coal at face of breast.
	24	Gomer Barnes, ...	American, ..	Driver, ...	19	S.	Sayre, ...	Northumberland, .	Body bruised by falling under moving car.

CONDITION OF COLLIERIES

LEHIGH VALLEY COAL COMPANY

Centralia, Sayre, Packer Nos. 2, 3, 4 and 5 Collieries.—Ventilation, drainage and condition as to safety good.

PHILADELPHIA AND READING COAL AND IRON COMPANY

Hammond, Bast, Potts and Bear Ridge Collieries.—Ventilation, drainage and condition as to safety good.

MIDVALLEY COAL COMPANY

Midvalley Colliery.—Ventilation good, drainage fair; condition as to safety good.

GIRARD MAMMOTH COAL COMPANY

Girard Mammoth Colliery.—Ventilation good; drainage fair; condition as to safety good.

W. R. McTURK COAL COMPANY

Girard Bear Ridge Colliery.—Ventilation good; drainage fair; condition as to safety good.

HARLEIGH BROOKWOOD COAL COMPANY

West Bear Ridge Colliery.—Ventilation and drainage fair; condition as to safety good.

BEAVER VALLEY COAL COMPANY

Scotch Valley Colliery.—Ventilation and drainage fair; condition as to safety good.

IMPROVEMENTS

LEHIGH VALLEY COAL COMPANY

Centralia Colliery.—Holmes fan house was made fireproof with herringbone lath and plaster; automatic device was placed on the coal hoisting engines to prevent overhoists; two 300-horsepower Stirling boilers, equipped with modern stokers and other automatic devices, were added to the boiler house equipment in a fireproof house. A transmission line was erected from Centralia to Continental, a distance of 6,000 feet, for operating the electric hoist on the Holmes basin slope. The round screens on the breaker were removed and replaced with 23 shakers, together with a number of Ayres pickers. The old style rolls were replaced with three pairs of compound rolls. The following tunnels were driven: From the Seven Foot to the Buck Mountain vein, 31 feet; from the Mammoth leader to the Mammoth vein third level, 64 feet; to Buck Mountain overlap 129 feet; from Skidmore to Buck Mountain, north dip, first level, 264 feet. A rock hole was driven on the third level from the Mammoth leader to the Four Foot vein, a distance of 90 feet. At Continental shaft first level, the tunnel was extended to the Mammoth vein, a distance of 84 feet. A rock hole was driven from the Leader to Mammoth, a distance of 32 feet. An electric hoist was placed for operating the Holmes basin slope. An automatic device for the prevention of overhoists was placed on the shaft engines. At Locust Run slope a tunnel was driven from the Skidmore to the Mammoth, third level, a distance of 46 feet. A rock hole was driven from the Skidmore No. 1 gangway to the Mammoth vein, a distance of 98 feet.

The old boiler plant at Logan was removed, the main slope having been equipped with an electric hoist. Power is furnished from the central power plant at Centralia colliery. A rock hole was driven from Mammoth to Mammoth leader, at head of No. 3 slope, a distance of 16 feet.

Sayre Colliery.—A settling tank was erected south of the breaker to dispose of the silt from the breaker wash water.

Installed an automatic fire spray line through the breaker and a transmission line from Sayre colliery to Sioux No. 3 slope for supplying current for inside haulage. Drove an 8-inch bore hole from surface to head of inside slope, No. 8 vein, for engine exhaust.

Installed a Brown combustion regulation outfit on the boiler plant.

Placed a fan on the Bellmore drift and installed a 24 by 42 by 14 by 48-inch Goyne duplex compound pump on second level.

An empty car plane was driven in Sayre shaft, third level, a distance of 535 feet. On second level completed a pump house in rock and a sump tunnel, a distance of 37 feet.

At Sioux No. 3 slope a tunnel, 86 feet was completed from the Seven Foot to the Buck Mountain, South dip, third level, and a tunnel 179 feet in North dip, No. 8 vein gangway, to Seven Foot, third level.

At Morris Ridge slope, a tunnel 36 feet was driven from west north dip Skidmore to Buck Mountain, second level.

Erected a surface plane for handling the coal from the Buck Mountain drift, and installed an engine and boiler in a fire-proof house.

Packer No. 3 Colliery.—A tunnel 66 feet was driven from Seven Foot to Buck Mountain vein, on stripping level, and a rock hole 73 feet was driven from Seven Foot to Mammoth vein.

Packer No. 4 Colliery.—A tunnel 114 feet was driven from Holmes to Primrose vein, third level, and a tunnel 124 feet from Skidmore to Seven Foot, East South dip, second level. Buck Mountain fan house was fireproofed and the fan shaft concreted from the surface to the rock. A new saw mill was erected for the purpose of sawing the mine timber. Electric haulage was installed on the first, second and third levels. Refuse bank was electrified and a motor is now being used as well as a steam locomotive.

Packer No. 2 Colliery.—The mouth of the tender slope was concreted. The Mammoth fan house was fireproofed and covered inside and outside with herringbone lath and plaster. At the head of the tender slope, tracks were rearranged, making a backswitch landing instead of a forward landing.

Automatic devices were placed on the tender slope engines in order to avoid overhoists. A tunnel 264 feet was driven from the Orchard to the Diamond vein, second level; also a tunnel 208 feet from Mammoth top split to Holmes vein, third level.

Packer No. 5 Colliery.—Foundations were laid for a new steel and concrete breaker, which will be erected the coming year. A refuse plane was built to transport the refuse to the top of the mountain south of the colliery. A new fireproof locomotive house was built. A saw mill was erected for cutting mine timber by electric machinery.

Automatic devices were placed on the shaft engines to prevent overhoisting. A tunnel 183 feet was driven from Seven Foot to the Mammoth, on west south dip, second level.

PHILADELPHIA AND READING COAL AND IRON COMPANY

Hammond Colliery.—The single and double track tunnel, fourth level, from the Buck Mountain vein to the coal hoisting, was completed, a distance of 1,576 feet.

A new 21-foot diameter Reading Guibal fan and 16 by 30-inch fan engine were installed and house over engine on the Skidmore, completed.

A 40 by 60-inch hoisting engine was installed in new engine house.

A head frame was constructed over the coal hoisting shaft and a system of mine car tracks between the shaft and breaker tips was completed. An addition, 16 by 28 feet, was built on east side of lamp house and the check system installed. A traffic tunnel 261 feet was driven from the West Holmes to West Orchard gangways, third level.

A traffic tunnel was driven 162 feet between the West Holmes and West Mammoth gangways, third level.

A traffic tunnel was driven 330 feet between the East Orchard and East Diamond gangways, third level. An air tunnel was driven 164 feet between West Mammoth and West Holmes Monkey gangways, third level; also an air tunnel 162 feet between West Holmes and West Orchard Monkey gangways, third level.

Potts Colliery.—A tunnel 227 feet was driven from West Diamond second level, to Tracy vein. Completed run-around gangway 107 feet in the slate under slope in Diamond vein, second level.

An electric power line 19,820 feet was constructed from Locust Spring Colliery power plant to Potts Colliery.

An electric box car loader was installed and a steel rock trestle 164 feet long was constructed over the P. and R. Railway to dispose of breaker refuse. A lamp and check house, 28 by 28 feet, was built near top of Primrose slope. A slope on 25 degree pitch is being sunk in the top rock of the Skidmore vein, North basin, North dip, from the first to second level.

A tender slope in Diamond vein from the surface to the fifth level is being sunk.

Bast Colliery.—Completed an airway 100 square feet in area in the Skidmore from the surface to third level, a distance of 1,350 feet.

Installed a 21 foot Reading Guibal force fan and a 16 by 30 inch fan engine, and erected house over engine.

Completed a tunnel 870 feet to and around coal shaft from East Buck Mountain gangway, second level.

A new coal hoisting shaft, with four compartments, each 7 feet by 121 feet, 8 inches is being sunk.

Completed concrete foundation for the new 36 by 60 inch hoisting engines for the coal shaft.

An addition, 16 by 28 feet, was built on east side of lamp house and the check system installed and placed in operation.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Union Hall, Pottsville, March 25 and 26. The Board of Examiners was composed of James A. O'Donnell, Mine Inspector, Centralia; Jacob M. Holt, Superintendent, Girardville; John Meredith and James Price, Miners, Ashland.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Frank Pollard, John J. Panko, Jr., John J. Doyle, Joseph Yorwarth, Michael T. Chapman, William H. Motter, Centralia; John T. Rudd, Shenandoah; William F. Blowert, Mahanoy Plane.

ASSISTANT MINE FOREMEN

Patrick Whalen, Edward J. Conners, John Hanna, Shenandoah; Luke Hoar, Michael J. Ryan, Lost Creek; John P. Coleman, Charles Witmayer, Girardville; Joseph E. Koch, Anthony McGinley, George Smith Wills, Centralia; John McLaughlin, Connerton.

FIFTEENTH DISTRICT

NORTHUMBERLAND COUNTY

Mount Carmel, Pa., February 26, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines for the Fifteenth Anthracite District, for the year ending December 31, 1913.

Respectfully submitted,

BENJAMIN I. EVANS, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	9
Number of mines,	24
Number of mines in operation,	24
Number of tons of coal shipped to market,	2,548,019
Number of tons used at mines for steam and heat,	298,082
Number of tons sold to local trade and used by employes,	43,412
Number of tons produced,	2,889,513
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	5,235
Number of persons employed outside,	1,899
Number of fatal accidents inside of mines,	22
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	27
Number of non-fatal accidents outside,	3
Number of tons of coal produced per fatal accident inside,	131,341
Number of tons produced per fatal accident outside,	963,171
Number of tons produced per fatal accident inside and outside,	115,580
Number of persons employed per fatal accident inside,	238
Number of persons employed per fatal accident outside,	633
Number of persons employed per fatal accident inside and outside,	285
Number of persons employed per non-fatal accident inside,	194
Number of persons employed per non-fatal accident outside,	633
Number of persons employed per non-fatal accident inside and outside,	238
Number of wives made widows,	12
Number of children made orphans,	14
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	24
Number of compressed air locomotives used inside,	4
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	21
Number of electric motors used outside,	....
Number of fans in use,	27
Number of furnaces in use,	....
Number of gaseous mines in operation,	11
Number of non-gaseous mines in operation,	13
Number of new mines opened,	1
Number of old mines abandoned,	1

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company,	1,136,269
Mineral Railroad and Mining Company,	1,046,259
Colonial Collieries Company,	267,725
Greenough Red Ash Coal Company,	265,578
Enterprise Coal Company,	173,682
Total,	2,889,513

Production by Counties

Northumberland,	2,889,513

TABLE B.—Fatal and non fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.	8	1	9	7	......	7	142,033	162,324	2,022	612	2,634	253	612	289	....
Mineral Railroad and Mining Co., ...	7	1	8	15	1	16	149,465	69,750	2,093	679	2,772	299	679	139	679
Colonial Collieries Co., ...	2	......	2	2	......	2	133,862	133,862	409	211	620	204	....	204	....
Greenough Red Ash Coal Co., ...	4	......	4	1	1	2	66,394	265,578	385	235	620	96	....	385	235
Enterprise Coal Co., ...	1	1	2	2	1	3	173,682	86,841	326	162	488	326	162	163	162
Totals and averages for district, ...	22	3	25	27	2	30	131,341	107,019	5,235	1,899	7,134	238	633	194	633

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	2	....	....	....	....	....	....	....	1	3	13.63
Falls of slate,	1	....	....	2	2	....	1	....	....	....	....	....	5	27.27
Mine cars,	1	....	....	1	1	....	....	....	....	....	1	1	5	22.72
Explosions of gas,	....	....	....	....	....	....	....	....	1	....	....	....	1	4.55
Suffocation by gas, etc.,	....	....	....	....	....	3	....	....	1	....	....	....	4	18.18
Explosions of powder and dynamite,	....	....	....	....	....	....	....	....	....	....	....	1	1	4.55
Blasts, premature and otherwise,	....	....	....	....	....	....	1	....	....	....	....	....	1	4.55
Struck by prop,	....	....	....	....	....	....	1	....	....	....	....	....	1	4.55
Totals,	2	....	....	5	3	3	3	....	2	....	1	3	22	100.00
Causes of Accidents Outside														
Cars,	1	....	....	1	....	....	....	....	....	....	....	....	2	66.67
Fell off chute,	....	....	....	....	....	....	....	....	....	....	1	....	1	33.33
Totals,	1	....	....	1	....	....	....	....	....	....	1	....	3	100.00
Grand totals inside and outside,	2	....	....	6	3	3	3	....	2	....	2	3	25	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	....	1	....	2	....	1	1	....	5	18.52
Mine cars,	....	....	1	1	....	1	2	1	....	....	1	3	10	37.04
Explosions of gas,	....	....	....	....	....	....	....	....	2	....	....	....	2	7.41
Explosions of powder and dynamite,	....	....	....	....	1	2	1	....	....	....	....	....	4	14.81
Blasts, premature and otherwise,	1	1	....	....	....	....	....	....	....	....	....	....	2	7.41
Machinery,	....	....	....	....	....	....	....	1	....	....	....	....	1	3.70
Struck by piece of coal	....	....	....	....	....	....	....	....	....	1	....	....	1	3.70
Struck by timber,	....	....	2	....	....	....	....	....	....	....	....	..	2	7.41
Totals,	1	1	3	1	1	4	3	4	2	2	2	3	27	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	....	....	1	....	....	....	1	33.33
Struck by timber,	....	....	1	....	....	....	....	....	....	....	....	....	1	33.33
Struck by rope,	1	....	....	....	....	....	....	....	....	....	....	....	1	33.34
Totals,	1	....	1	....	....	....	....	....	1	....	....	....	3	100.00
Grand totals inside and outside,	2	1	4	1	1	4	3	4	3	2	2	3	30	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	1	....	....	4	1	....	3	....	2	....	....	3	14
Miners' laborers,	....	....	....	....	....	2	....	....	....	....	1	....	3
Drivers and runners,	....	....	....	1	....	....	....	....	....	....	....	....	1
Spraggers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Repairmen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Bratticemen,	....	....	....	....	....	1	....	....	....	....	....	....	1
Bottommen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Totals,	2	....	....	5	3	3	3	....	2	....	1	3	22
Outside													
Laborers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Ashmen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Car loaders,	....	....	....	....	1	....	....	....	....	....	....	....	1
Totals,	1	....	....	1	....	....	....	....	....	....	1	....	3
Grand totals inside and outside,	3	....	....	6	3	3	3	....	2	....	2	3	25

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	....	....	....	....	....	....	....	....	2	....	....	....	2
Miners,	....	1	2	....	1	2	...	2	....	1	1	....	10
Miners' laborers,	1	....	1	1	....	....	1	1	....	....	1	1	7
Drivers and runners,	....	....	....	....	....	1	1	1	....	....	....	2	5
Loaders,	....	....	....	....	....	1	1	....	....	....	....	....	2
Footmen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Totals,	1	1	3	1	1	4	3	4	2	2	2	3	27
Outside													
Laborers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Timbermen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Ashmen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	1	....	1	....	....	....	....	....	1	....	....	....	3
Grand totals inside and outside,	2	1	4	1	1	4	3	4	3	2	2	3	30

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	....	4	1	....	1	....	....	....	....	....	7
Irish,	....	....	....	....	1	....	....	....	....	....	1	....	2
Polish,	1	....	....	....	1	1	1	....	1	....	....	....	5
Italian,	....	....	....	....	....	....	1	....	1	....	....	....	2
Slavonian,	....	....	....	....	....	1	....	....	....	....	....	....	1
Lithuanian,	....	....	....	1	....	....	....	....	....	....	....	2	3
Austrian,	....	....	....	1	....	....	....	....	....	....	....	1	2
Russian,	1	....	....	....	....	....	....	....	....	....	1	....	2
Magyar,	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals,	3	....	....	6	3	3	3	....	2	....	2	3	25

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	....	1	....	....	2	2	1	....	1	1	8
English,	....	....	1	....	....	....	....	....	....	....	....	....	1
German,	....	....	1	....	....	....	....	....	....	....	....	1	2
Polish,	1	1	1	....	1	3	....	....	2	....	1	1	11
Italian,	....	....	....	....	....	1	....	1	....	....	....	....	2
Lithuanian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Russian,	1	....	1	....	....	....	1	1	....	1	....	....	5
Totals,	2	1	4	1	1	4	3	4	3	2	2	3	30

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.															
Locust Spring Colliery:															
Locust Spring, East, ...	Slope, ...	Gaseous, ..	Fan, ...	21	5.6	5.6	76	1.6	Reading, ...	Steam, ..	10	48,930	49,920	49,940	1,022
Locust Spring, ...	Shaft,.....	Gaseous, ..	Fan, ...	15	3	4.6	100	1.4	Guibal		9	29,460	28,500	30,120	
Locust Spring, West, ...	Slope, ...	Gaseous, ..	Fan, ...	16	4	3.6	84	1.3	Guibal, ...		8	48,000	48,000	48,500	
Locust Gap Colliery:															
Locust Gap, East, ...	Slope, ...	Gaseous, ..	Fan, ...	21	5	4.6	70	1.3	Guibal, ...		10	80,130	80,120	81,176	
Locust Gap, West, ...	Slope, ...	Non-gas., .	Fan, ...	15	4	3.6	90	.5	Guibal, ...		8	20,410	20,410	20,500	
Locust Gap, Buck Mountain, ...	Slope, ...	Non-gas., .	Fan, ...	12	4	3.6	75	.6	Reading, ...		2	7,570	7,570	7,860	
Alaska Colliery:															
Alaska No. 1, ...	Shaft,.....	Non-gas., .	Fan, ...	18	4.8	5	88	1.5	Guibal, ...	Steam,......	10	164,000	164,500	165,640	647
Alaska No. 2, ...	Shaft,....	Non-gas., .	Fan, ...	18	7	6.5	87	1.4	Guibal, ...	Steam,......	8				
Reliance Colliery:															
Reliance No. 1, ...	Slope, ...	Gaseous, ..	Fan, ...	18	5.6	5.6	75	1.4	Guibal, ...	Steam,......	7	92,470	92,500	92,600	353
Reliance No. 2, ...	Slope, ...	Gaseous, ..	Fan, ...	18	5.6	5.6	80	1.5	Guibal, ...	Steam,......	8				
Mineral Railroad and Mining Co.															
Pennsylvania Colliery:															
Pennsylvania No. 1, ...	Slope, ...	Gaseous, .	Fan, ...	21	3.5	3.5	80	1.6	Guibal, ...	Steam,......	6	80,000	77,590	81,900	798
Pennsylvania No. 2, ...				16	5	5	85	1.4	Vulcan, ...	Steam,......	4	65,400	63,780	66,700	
Pennsylvania No. 5, ...				16	3.5	3.5	90	1.3	Mullen, ...	Steam,......	8	79,000	77,540	80,070	

Richards Colliery:															
Richards No. 1, ...	Slope, ...	Gaseous, ..	Fan, ...	18	7.2	5.2	106	1.2	Guibal, ...	Steam, ...	8	75,191	76,500	77,441	674
Richards No. 2, ...	Slope, ...	Gaseous, ..	Fan, ...	20	6.8	6.4	96	1.2			8	80,586	79,000	82,557	
Richards No. 4, ...	Slope, ...	Non gas., .	Fan, ...	16	4.5	4.5	65	1.1			6	22,500	21,000	23,650	
Scott Colliery:															
Scott, ...	Shaft, ...	Gaseous, ..	Fan, ...	18	7	5.6	102	2	Guibal, ...	Steam, ...	13	138,000	136,000	139,500	621
Colonial Collieries Co.															
Natalie Colliery:															
Natalie No. 2, ...	Slope, ...	Non gas., .	Fan, ...	16	4	4.5	50	.8	Mullen, ...	Steam, ...	2	15,000	14,100	15,300	409
Natalie No. 3, ...				14	4	4.11	60	1.2			3	23,000	22,500	24,000	
Natalie No. 4, ...				14	4	4.10	60	.9			8	42,000	41,200	43,350	
Natalie, Lykens No. 1,				16	4	4.4	45	.5			1	22,500	21,470	23,500	
Natalie, Lykens No. 2,				16	4	4.4	45	.5			5	12,000	10,740	12,700	
Greenough Red Ash Coal Co.															
Greenough Colliery:															
Greenough No. 1, ...	Shaft, ...	Non-gas., .	Fan, ...	21	5.6	6	49	2.1	Mullen, ...	Steam, ...	7	57,418	57,000	58,780	385
Greenough No. 2, ...	Drift, ...	Non-gas., .	Fan, ...	12	3.3	3.4	115	1.3	Mullen, ...	Steam, ...	3	33,640	34,780	35,000	
Enterprise Coal Co.															
Enterprise Colliery:															
Enterprise, ...	Shaft, ...	Non gas., .	Fan, ...	14	3.5	5	120	2.3	Guibal, ...	Steam, ...	3	22,760	21,800	23,690	326
Enterprise No. 8, ...	Slope, ..		Fan, ...	14	4.5	5	82	1.2			4	24,900	23,500	25,000	
Enterprise No. 10, ...	Slope, ..		Fan, ...	15	3.5	5	78	1.3			2	24,750	23,000	25,000	

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.						
Locust Spring,	Northumberland,	W. J. Richards, General Manager,	Pottsville,	Reese Tasker,	Pottsville,	P. and R.
Locust Gap,						
Alaska,						
Reliance,						
Mineral Railroad and Mining Co.						
Pennsylvania,	Northumberland,	R. A. Quin,	Wilkes-Barre,	W. R. Reinhardt,	Shamokin,	Pennsylvania
Richards,						
Scott,						
Colonial Collieries Co.						
Natalie,	Northumberland,	F. A. Hill,	Pottsville,	R. H. Buchanan,	Pottsville,	P. and R.
Greenough Red Ash Coal Co.						
Greenough,	Northumberland,	Edward Brennan,	Shamokin,			Pennsylvania
Enterprise Coal Co.						
Enterprise,	Northumberland,	W. L. Connell,	Scranton,			P. and R.
Excelsior Coal Co.						
Excelsior,*	Northumberland,	A. D. Robertson,	Shamokin,			P. and R.

*Abandoned.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.													
Locust Spring, ... Locust Gap, ...	Northumberland,	538,533	73,096	2,665	614,294	260	1,351	5	3	21,175	350,598	28,597	99
Alaska, ...	Northumberland,	270,654	26,023	59	296,736	219	803	1	3	107,500	139,176	9,250	68
Reliance, ...	Northumberland,	172,965	33,827	18,447	225,239	258	480	3	1	16,825	144,244	....	45
Totals, ...	....	982,152	132,946	21,171	1,136,269	......	2,634	9	7	145,500	634,018	37,847	212
Mineral Railroad and Mining Co.													
Pennsylvania, ...	Northumberland,	361,743	27,060	12,526	401,329	248	1,035	3	6	68,450	200,028	....	71
Richards, ...	Northumberland,	308,823	30,455	86	339,364	242	980	1	2	3,725	320,738	....	74
Scott, ...	Northumberland,	283,099	19,650	2,817	305,566	232	757	4	8	92,025	144,105	....	67
Totals, ...	....	953,665	77,165	15,429	1,046,259	......	2,772	8	16	164,200	664,871	....	212
Colonial Collieries Co.													
Natalie, ...	Northumberland, ...	231,330	33,221	3,174	267,725	290	620	2	2	16,250	131,500	....	37
Greenough Red Ash Coal Co.													
Greenough, ...	Northumberland, ...	243,978	18,250	3,350	265,578	268	620	4	2	43,750	27,750	....	63
Enterprise Coal Co.													
Enterprise, ...	Northumberland, ...	136,894	36,500	288	173,682	237	488	2	3	128,300	16,238	....	52
Grand totals, ...	....	2,548,019	298,082	43,412	2,889,513	......	7,134	25	30	498,000	1,474,377	37,847	576

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Philadelphia and Reading Coal and Iron Co.,	Northumberland,	......	......	54	7,450	7,450	10	4	4	135	19,526	17	25,204	6,989	2	10
Mineral Railroad and Mining Co.,		......	......	44	5,950	5,950	6	......	7	62	7,660	12	9,090	3,736	2	2
Colonial Collieries Co.,		......	......	10	2,000	2,000	4	......	......	11	1,650	8	2,600	2,600	2	3
Greenough Red Ash Coal Co.,		......	......	8	1,300	1,300	......	......	4	14	830	3	3,900	3,900	2	......
Enterprise Coal Co.,		......	......	10	2,500	2,500	4	......	6	12	1,328	4	6,548	6,548	2	1
Totals,	....	.....	......	126	19,200	19,200	24	4	21	234	30.994	44	47,342	23,773	10	16

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	Grand total inside and outside
Philadelphia and Reading Coal and Iron Co.,	Northumberland,	5	27	....	886	219	137	24	19	221	484	2,022	....	7	26	97	53	19	12	398	612	2,634
Mineral Railroad and Mining Co.,		4	6	36	935	344	135	26	20	42	545	2,093	1	4	41	93	216	14	22	288	679	2,772
Colonial Collieries Co.,		1	5	....	140	124	28	3	10	35	63	409	....	1	11	41	22	8	2	126	211	620
Greenough Red Ash Coal Co.,		2	4	....	189	65	60	5	6	35	19	385	1	1	11	21	95	....	3	103	235	620
Enterprise Coal Co.,		1	1	....	161	63	23	2	4	51	20	326	1	1	8	32	24	18	3	75	162	488
Totals,		13	43	36	2,311	815	383	60	59	384	1,131	5,235	3	14	97	284	410	59	42	990	1,899	7,134

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Philadelphia and Reading Coal and Iron Co.,	Northumberland,	25	23	19	24	24	23	18	13	12	21	23	21	246
Mineral Railroad and Mining Co.,	Northumberland,	22	19	17	19	22	20	17	18	22	22	22	21	241
Colonial Collieries Co.,	Northumberland,	26	23	23	24	25	24	24	24	25	24	25	23	290
Greenough Red Ash Coal Co.,	Northumberland,	24	19	22	23	22	23	24	23	22	22	22	22	268
Enterprise Coal Co.,	Northumberland,	22	18	16	14	18	16	17	24	23	25	21	23	237

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	11	Joseph Basavage,	Polish,	Miner,	46	M.	1	5	Pennsylvania,	Northumberland,	Killed by fall of slate while robbing pillars.
	18	Jaco Arzenie,	Russian,	Laborer,	38	S.	....	....	Richards,		Killed by bar running through his body. While barring a car another car struck him and forced the bar through his body. Outside.
	27	Theodore Shipshack,	American,	Spragger,	17	S.	....	....	Reliance,		Fatally injured between cars on gangway while trying to couple them.
April	10	Harry Rainer,	American,	Miner,	21	S.	....	....	Locust Spring,		Killed by fall of coal at face of breast.
	15	Michael Adams,	Lithuanian,	Miner,	39	M.	1	....	Locust Spring,		Killed by fall of coal at face of breast.
	18	Thomas Foley,	American,	Driver,	18	S.	....	....	Greenough,		Killed by fall of slate on gangway.
		Jake Cominskie,	Austrian,	Miner,	29	M.	1	....	Greenough,		Killed by car. He fell under car and was run over.
	22	Tim Snyder,	American,	Car loader,	17	S.	....	....	Locust Spring,		Killed by car. He fell under car and was run over. Outside.
	29	Jerome Splane,	American,	Miner,	52	M.	1	5	Greenough,		Killed by fall of slate at face of pillar.
May	8	John Zdunick,	Polish,	Miner,	30	M.	1	....	Scott,		Killed by fall of slate in breast.
	12	Patrick Boyle,	Irish,	Repairman,	58	M.	1	....	Locust Spring,		Killed by fall of slate.
	28	Henry Morgan,	American,	Bottom man,	28	S.	....	....	Reliance,		Killed by car on slope.
June	2	William Vengle,	Polish,	Laborer,	24	S.	....	....	Enterprise,		Killed by being suffocated by white damp on gangway.
	7	George Sadusky,	Slavonian,	Bratticeman,	38	M.	1	....	Scott,		Killed by the fumes of an explosion of dynamite in heading.
		Stephen Worgus,	Magyar,	Laborer,	24	S.	....	....	Scott,		Killed by the fumes of an explosion of dynamite in heading.
July	21	Peter Kolshefskie,	Polish,	Miner,	57	M.	1	....	Alaska,		Killed by blast.
	25	Tony Sardell,	Italian,	Miner,	58	M.	1	....	Natalie,		Killed by prop falling on him on gangway.
	28	Richard Lovell,	American,	Miner,	26	S.	....	....	Locust Spring,		Killed by fall of slate on gangway.
Sept.	23	Bert Paul,	Polish,	Miner,	33	M.	1	3	Pennsylvania,		Fatally burned by gas in old breast.
	24	Angelo Serna,	Italian,	Miner,	21	M.	1	....	Pennsylvania,		Killed by being smothered by gas at face of breast.
Nov.	3	Martin Moran,	Irish,	Laborer,	38	S.	....	....	Natalie,		Killed between prop and car on slope.
	8	Wasil Bolitskie,	Russian,	Ashman,	28	S.	....	....	Enterprise,		Killed by falling from elevated chute to railroad. Outside.
Dec.	2	George Hutsco,	Austrian,	Miner,	26	M.	1	1	Greenough,		Killed by fall of coal at face of breast.
	11	Frank Mickalofskie,	Lithuanian,	Miner,	34	S.	....	....	Reliance,		Killed by explosion of dynamite.
	20	Paul Chulkila,	Lithuanian,	Miner,	28	S.	....	....	Scott,		Killed by car on slope.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	16	Stanny Lamarko, ...	Polish, ...	Laborer, ...	24	S.	Scott, ...	Northumberland,	Leg broken by being struck by piece of coal from shot.
	18	Michael Vitcovich, ...	Russian, ...	Laborer, ...	19	S.	Enterprise, ...		Leg broken by rope in motion when he stepped over it. Outside.
Feb.	26	Frank Moleski, ...	Polish, ...	Miner, ...	50	S.	Alaska, ...		Injured severely by blast at face of breast.
March	3	Thomas Thew, ...	English, ...	Miner, ...	54	M.	Enterprise, ...		Ribs broken by collar falling on him when platform broke.
	5	Frank Galoskie, ...	Polish, ...	Laborer, ...	34	M.	Pennsylvania, ...		Hip dislocated by being caught between top of car and top rock.
	6	Julius Klawitter, ...	German, ...	Timberman, ...	53	M.	Scott, ...		Leg broken by timber rolling on it. Outside.
	18	Michael Mudrack, ...	Russian, ...	Miner, ...	40	M.	Natalie, ...		Leg broken by timber falling on him.
April	8	Joseph Ford, ...	American, ..	Laborer, ...	43	M.	Alaska, ...		Leg injured between cars on turnout.
May	8	Stanny Maichuck, ..	Polish, ...	Miner, ...	32	M.	Greenough, ...		Hands blown off and eye blown out by explosion of dynamite.
June	7	Joseph Stocko, ...	Polish, ...	Driver, ...	21	S.	Alaska, ...		Leg broken by being caught between mule and car.
		Frank Veraima, ...	Italian, ...	Loader, ...	22	S.	Scott, ...		Concussion of brain caused by explosion of dynamite in heading.
		Lewis Harris, ...	Polish, ...	Miner, ...	50	M.	Scott, ...		Leg and arm blown off by explosion of dynamite in heading.
		William Stankumis, ..	Polish, ...	Miner, ...	50	M.	Scott, ...		Leg broken by fall of coal at face of breast.
July	8	Richard Schrader, ...	American, ..	Driver, ...	20	S.	Enterprise, ...		Squeezed by falling under mine car.
	21	Enoch Sodor, ...	Russian, ...	Laborer, ...	22	S.	Richards, ...		Burned by explosion of powder.
	28	Charles Lentz, ...	American, ..	Loader, ...	40	S.	Locust Spring, ...		Hip dislocated by being caught between buggies on gangway.
Aug.	9	Michael Rukess, ...	Russian, ...	Laborer, ...	36	M.	Reliance, ...		Squeezed between boring machine shaft and rib in shaft.
	21	Ricko Tomeris, ...	Italian, ...	Miner, ...	31	M.	Richards, ...		Leg broken by fall of coal at face of breast.
	26	William Parkins, ...	American, ..	Driver, ...	28	M.	Scott, ...		Arm broken by being caught between rib and car on gangway.
	27	Jacob Billman, ...	American, ..	Miner, ...	42	M.	Natalie, ...		Arm broken by fall of coal at face of gangway.

Sept.	9	Felix Crushinskie,	Polish,	Fire boss,	45	M.	Pennsylvania,	Northumberland,	Burned by explosion of gas.
		Phillip Hughes,	American,	Fire boss,	40	M.	Pennsylvania,		Burned by explosion of gas.
	24	John Oshock,	Polish,	Ashman,	28	M.	Greenough,		Badly injured between ash dumpers in boiler house. Outside.
Oct.	22	George Boslego,	Russian,	Footman,	23	M.	Scott,		Leg broken by fall of coal from car.
		Thomas Mutlavitch,	Lithuanian,	Miner,	46	M.	Scott,		Back severely injured by fall of coal at face of breast.
Nov.	10	Anthony Bosala,	Polish,	Laborer,	20	S.	Pennsylvania,		Knee injured between bumpers of cars.
	12	Fred Lucas,	American,	Miner,	26	S.	Locust Spring,		Leg broken by fall of coal at face of breast.
Dec.	2	John Alexie,	Polish,	Laborer,	26	M.	Pennsylvania,		Injured internally by being caught between car and rib on gangway.
	4	Jacob Sebastian,	German,	Driver,	22	S.	Locust Spring,		Back severely injured by being caught between top of car and collar.
	10	Albert Evans,	American,	Driver,	21	S.	Pennsylvania,		Foot injured in switch.

CONDITION OF COLLIERIES

PHILADELPHIA AND READING COAL AND IRON COMPANY

Locust Spring Colliery.—Shaft No. 1, Holmes, East and West Slopes.—Ventilation, drainage and condition as to safety good.

Locust Gap Colliery.—East, West and Buck Mountain Slopes.—Ventilation, drainage and condition as to safety good.

Alaska and Reliance Collieries.—Ventilation, drainage and condition as to safety good.

MINERAL RAILROAD AND MINING COMPANY

Pennsylvania Colliery.—Nos. 1 and 5 Slopes.—Ventilation, drainage and condition as to safety good.

Richards Colliery.—Nos. 1, 4 and 5 Slopes.—Ventilation, drainage and condition as to safety good.

Scott Colliery.—Ventilation, drainage and condition as to safety good.

COLONIAL COLLIERIES COMPANY

Natalie Colliery.—Nos. 2, 3 and 4 Slopes and Lykens Nos. 1 and 2,—Ventilation, drainage and condition as to safety fairly good.

GREENOUGH RED ASH COAL COMPANY

Greenough Colliery.—Shaft and Drift.—Ventilation, drainage and general condition good.

ENTERPRISE COAL COMPANY

Enterprise Colliery.—Shaft.—Ventilation fair; drainage bad; safety condition fair.

IMPROVEMENTS

MINERAL RAILROAD AND MINING COMPANY

Pennsylvania Colliery.—Built a reinforced concrete retaining wall from the breaker trestle south to shops, 250 feet long by 10 feet high, 8 inches thick.

Installed safety blocks on empty car tracks at west side of breaker for safety of car loaders while loading cars under the breaker.

Placed posts along railroad track to prevent timber and lumber from getting too close to the track and for the safety of employes.

Built emergency hospital to give first aid to injured persons.

Built bath house 56 feet long and 25 feet wide, of concrete block, for the miners. This house is equipped with lockers, hot and cold water sprays, heated with steam and in charge of an attendant daily.

Shaft Counter, No. 1 slope level. Drove a 7 by 10 foot tunnel 100 feet from No. 10 seam south dip, cutting No. $9\frac{1}{2}$ seam a distance of 55 feet and No. $9\frac{3}{4}$ seam a distance of 100 feet, on a dip of 75 degrees.

Airways were driven to surface, a distance of 270 feet.

Slope driven 750 feet across the pitch on a dip of 12 degrees from No. 1 slope to No. 2 slope counter in No. $10\frac{1}{2}$ seam, eliminating counter chute as well as 1,500 feet of slant gangway on which cars were run with sprags. Installed a 16 by 30 inch Mullen steam engine in a fireproof house in rock.

Built 66 concrete stoppings in the No. 4 seam, in south dip, No. 2 slope, 5 by 10 by 2 feet.

Built concrete wall 50 feet long by 9 feet high at mouth of No. 4 seam tunnel in No. 9 seam, No. 2 slope.

Concreted 70 feet of the back switch on the head of No. 2 slope.

Built concrete head house 35 by 10 by 8 feet to dip, with a ridge roof, at mouth of accommodation slope, making it warmer for men going up and down in winter.

Built 300 feet of center wall in No. 5 slope.

Drove tunnel 7 by 10 feet, 200 feet cutting the No. 4 seam, south dip, No. 5 slope.

Drove an air shaft up 50 feet through rock from No. 11 seam, north dip, to surface.

Drove a tunnel in No. 1 slope, shaft level, from No. 9¾ seam to No. 9½ seam.

Richards Colliery.—Built concrete block bath house 56 feet long and 25 feet wide for the miners. The house is equipped with lockers, hot and cold water sprays, heated with steam and in charge of an attendant daily.

Placed safety posts along empty car track to prevent timber and lumber from getting too close to track where employes are working.

Placed safety blocks on empty car track for the safety of car loaders while loading cars under the breaker.

Drilled 20-inch bore hole lined with 12 inch wooden pipe to a depth of 330 feet; also a 15 inch hole with a 12 inch steam pipe put into service to a depth of 330 feet, replacing two 6 inch steam lines which ran down through a steam way a distance of 775 feet; also one 6 inch steam line running down No. 3 slope, a distance of 220 feet.

Sank an underground single track slope in No. 9 seam, west north dip, No. 2 slope, to a depth of 340 feet across the pitch on an average dip of 28 degrees, and installed a pair of 12 by 14 inch self-contained Exeter geared engines.

Drove a traveling and airway parallel to slope on east side and west side of slope.

Drove airway from No. 3 slope to No. 1 slope level, 210 feet, on a dip of 70 degrees, connecting No. 2 fan with the south dip, No. 2 slope workings and greatly improving the ventilation.

Drove air tunnel from No. 8 seam to No. 5 seam, south dip, No. 2 slope, connecting Nos. 2 and 3 slopes and making a second outlet for them.

Concreted 28 feet of No. 1 slope mouth. The side walls are built 100 feet.

A single track slope 948 feet was sunk in No. 6 seam basin in No. 4 slope, making a total of 1,528 feet on an average dip of about 5 degrees. A tunnel 160 feet was driven south from No. 6 seam to No. 4 seam, north dip, cutting No. 4 seam at an elevation where there is a 3,300 foot tunnel under way from surface, which, when completed, will serve as a drainage as well as a haulage way for No. 4 slope basin, replacing the present No. 4 plant.

A tunnel was driven south from No. 6 seam, south dip, No. 4 slope level, to No. 8 seam basin, connecting Nos. 4 and 5 slope levels.

Nos. 5, 7 and 9 slopes were sunk. Tunnels were driven on No. 1 slope from No. 10 seam to No. 10¾ seam and from No. 10 seam to No. 9¾ seam. Tunnel driven on No. 1 slope from No. 8 seam to No. 9 seam.

Scott Colliery.—Built a concrete block lamp house 25 feet long and 16 feet wide. Are constructing a concrete block power plant 65 feet long and 42 feet wide.

Built a bath house of concrete block 56 feet long and 25 feet wide for the miners. This house is equipped with lockers, hot and cold water sprays, heated with steam and in charge of an attendant daily.

Safety posts were placed along empty car track to prevent timber and lumber from getting too close to the tracks where employes are working.

Two safety blocks were placed on empty car track for the safety of employes while loading cars under breaker.

New style safety clamps were placed on short and long hoist for safety in case the main chains should break.

A new emergency hospital was built to give first aid to injured employes.

A slope was sunk in No. 1 shaft to a depth of 300 feet on a dip of 28 degrees in No. 4 seam. Installed a single 14 by 24 inch Mullen type engine in a fireproof house.

Traveling way was completed from No. 5 west level to No. 4 west level, in No. 1 slope.

Built two large concrete overcasts in No. 1 slope works, blasting out of the solid rock to make room for the air passage.

A tunnel was driven on No. 9 seam plane from No. 9 seam to No. 9½ seam, 65 feet; also a tunnel from No. 6 seam, south dip, to No. 9½ seam basin, 261 feet, and a second outlet is now being driven.

Installed a pair of 14 by 16 inch self-contained Exeter engines, driven by compressed air, on No. 9 seam plane.

Preparations are being made for the installation of two 7-ton electric locomotives in No. 1 shaft short hoist level.

Completed a concrete hospital, 12 by 18 feet, heated with hot water system.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held at the Academy, Pottsville, March 25 and 26. The Board of Examiners was composed of B. I. Evans, Mine Inspector, Mount Carmel; Andrew Robertson, Superintendent, Pottsville; James Bateman, Miner, Mount Carmel; James McHugh, Miner, Locust Gap.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

John Morgan, Mount Carmel.

ASSISTANT MINE FOREMEN

George Cauthern, Kulpmont; William H. Evans, Lavelle; Thomas J. Butler, Girardville; George E. Turner, Mount Carmel; John J. Joyce, Locust Gap; William J. Doyle, Centralia.

SIXTEENTH DISTRICT

NORTHUMBERLAND COUNTY

Shamokin, Pa., February 24, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Sixteenth Anthracite District, for the year ending December 31, 1913.

Respectfully submitted,

P. J. FRIEL, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	14
Number of mines,	42
Number of mines in operation,	42
Number of tons of coal shipped to market,	2,636,550
Number of tons used at mines for steam and heat,	332,187
Number of tons sold to local trade and used by employes,	69,329
Number of tons produced,	3,038,066
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	5,092
Number of persons employed outside,	2,147
Number of fatal accidents inside of mines,	19
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	70
Number of non-fatal accidents outside,	10
Number of tons of coal produced per fatal accident inside,	159,898
Number of tons produced per fatal accident outside,	1,012,689
Number of tons produced per fatal accident inside and outside,	138,094
Number of persons employed per fatal accident inside,	268
Number of persons employed per fatal accident outside,	716
Number of persons employed per fatal accident inside and outside,	329
Number of persons employed per non-fatal accident inside,	73
Number of persons employed per non-fatal accident outside,	215
Number of persons employed per non-fatal accident inside and outside,	90
Number of wives made widows,	12
Number of children made orphans,	23
Number of steam locomotives used inside of mines,	2
Number of steam locomotives used outside,	22
Number of compressed air locomotives used inside,	....
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	8
Number of electric motors used outside,	5
Number of fans in use,	44
Number of furnaces in use,	....
Number of gaseous mines in operation,	23
Number of non-gaseous mines in operation,	19
Number of new mines opened,	....
Number of old mines abandoned,	3

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company.	1,457,742
Mineral Railroad and Mining Company,	951,981
Excelsior Coal Company,	226,784
Shipman Koal Company,	174,130
Buck Ridge Coal Mining Company,	115,267
Trevorton Colliery Company,	112,162
Total,	3,038,066

Production by Counties

Northumberland,	3,038,066

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	8	1	9	28	3	31	182,218	52,062	2,191	937	3,128	274	937	78	312
Mineral Railroad and Mining Co.,	6	1	7	19	5	24	158,664	50,104	1,637	810	2,447	273	810	86	162
Excelsior Coal Co.,	2	......	2	5	......	5	113,[illegible]92	45,357	443	106	549	222	....	89	....
Shipman Koal Co.,	1	......	1	4	......	4	174,130	43,533	272	159	431	272	....	68	....
Buck Ridge Coal Mining Co.,	2	......	2	14	......	14	57,634	8,233	275	69	344	138	....	20	....
Trevorton Colliery Co.,	......	1	1	......	2	2	....	....	274	66	340	....	66	....	33
Totals and averages for district,	19	3	22	70	10	80	159,89[illegible]	43,401	5,092	2,147	7,239	268	716	73	215

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	1	....	1	1	....	1	....	2	....	1	....	7	36.85
Falls of slate, ...	1	....	....	....	....	....	....	....	....	....	....	1	2	10.53
Falls of roof, ...	....	....	....	1	....	....	....	....	....	....	....	....	1	5.26
Mine cars, ...	....	1	....	....	....	....	....	....	....	1	....	1	3	15.79
Explosions of gas, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	5.26
Suffocation by gas, etc.	....	....	....	....	....	....	....	1	....	....	....	....	1	5.26
Explosions of powder and dynamite, ...	....	1	....	....	....	....	....	....	....	....	....	....	1	5.26
Blasts, premature and otherwise, ...	....	....	....	1	1	....	....	....	....	....	....	....	2	10.53
Falling into slopes, etc.	....	....	....	....	....	....	....	1	....	....	....	....	1	5.26
Totals, ...	1	3	....	3	2	....	1	2	2	2	1	2	19	100.00
Causes of Accidents Outside														
Cars, ...	....	....	....	1	....	....	1	1	....	....	....	....	3	100.00
Totals, ...	....	....	....	1	....	....	1	1	....	....	....	....	3	100.00
Grand totals inside and outside, ...	1	3	....	4	2	....	2	3	2	2	1	2	22	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	1	1	2	2	....	....	....	1	2	2	2	13	18.57
Falls of slate, ...	1	....	....	1	....	1	....	1	1	....	....	1	6	8.57
Falls of roof, ...	1	....	....	1	....	....	....	....	1	1	....	1	5	7.14
Mine cars, ...	1	....	....	....	3	1	1	1	1	2	1	....	11	15.71
Explosions of gas., ...	....	1	1	....	2	1	3	2	....	7	2	1	20	28.57
Explosions of powder and dynamite, ...	....	....	....	....	....	....	1	....	1	1	1	....	4	5.71
Blasts, premature and otherwise, ...	....	....	....	....	....	1	....	....	....	....	....	....	1	1.43
Falling into slopes, etc.	....	....	....	1	....	....	....	....	....	....	2	....	3	4.29
Mules, ...	....	....	1	....	....	....	....	....	....	1	1	....	3	4.29
Struck by piece of coal, ...	....	....	....	1	....	....	....	....	....	....	1	....	2	2.86
Struck by door, ...	....	....	....	....	....	....	....	....	....	....	....	1	1	1.43
By falling, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	1.43
Totals, ...	3	2	3	6	7	4	5	4	5	15	10	6	70	100.00
Causes of Accidents Outside														
Cars, ...	1	....	....	....	1	2	....	....	1	....	....	....	5	50.00
Machinery, ...	....	....	....	....	....	....	....	1	....	....	....	....	1	10.00
Struck by timber, ...	1	....	....	....	....	....	....	....	....	....	....	....	1	10.00
Struck by rope, ...	..	....	....	....	1	....	....	....	....	....	....	....	1	10.00
By sheet iron falling on him, ...	....	....	....	....	....	....	1	....	....	....	....	....	1	10.00
By falling, ...	1	....	....	....	....	....	....	....	....	....	....	....	1	10.00
Totals, ...	3	....	....	....	2	2	1	1	1	....	....	....	10	100.00
Grand totals inside and outside, ...	6	2	3	6	9	6	6	5	6	15	10	6	80	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	....	....	2	1	....	1	2	1	1	1	1	10
Miners' laborers,	1	2	....	....	1	....	....	....	1	....	....	1	6
Top men,	....	....	....	....	....	....	....	....	....	1	....	....	1
Bottom men,	....	1	....	....	....	....	....	....	....	....	....	....	1
Timber men,	....	....	....	1	....	....	....	....	....	....	....	....	1
Totals,	1	3	....	3	2	....	1	2	2	2	1	2	19
Outside													
Car loaders,	....	....	....	....	....	....	1	....	....	....	....	....	1
Laborers,	....	....	....	1	....	....	....	1	....	....	....	....	2
Totals,	....	....	....	1	....	....	1	1	....	....	....	....	3
Grand totals inside and outside,	1	3	....	4	2	....	2	3	2	2	1	2	22

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	1	....	....	....	....	....	....	....	....	....	....	....	1
Miners,	2	2	1	5	4	4	4	2	3	7	6	4	44
Miners' laborers,	....	....	1	1	....	....	1	2	1	4	1	1	12
Drivers and runners,	....	....	....	....	3	....	....	....	....	3	2	....	8
Loader bosses,	....	....	....	....	....	....	....	....	1	....	....	....	1
Bottom men,	....	....	....	....	....	....	....	....	....	....	1	....	1
Loaders,	....	....	1	....	....	....	....	....	....	1	....	....	2
Repair men,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	3	2	3	6	7	4	5	4	5	15	10	6	70
Outside													
Blacksmiths and carpenters,	1	....	....	....	....	....	....	....	....	....	....	....	1
Engineers and firemen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Slatepickers (boys),	....	....	....	....	....	....	....	....	1	....	....	....	1
Conductors,	1	....	....	....	....	....	....	....	....	....	....	....	1
Timbermen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Laborers,	....	....	....	....	....	2	....	....	....	....	....	....	2
Repair men,	....	....	....	....	1	....	....	....	....	....	....	....	1
Jig runners,	....	....	....	....	....	....	1	....	....	....	....	....	1
Feeders,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	3	....	....	....	2	2	1	1	1	....	....	....	10
Grand totals inside and outside,	6	2	3	6	9	6	6	5	6	15	10	6	80

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	2	....	1	....	....	1	2	....	1	....	....	7
Welsh,	....	....	....	....	....	....	....	....	....	....	1	....	1
Polish,	....	....	....	2	1	....	1	1	...	1	....	1	7
Italian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Lithuanian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Austrian,	....	....	....	....	....	....	....	....	....	....	....	1	1
Russian,	1	1	....	1	1	....	....	....	....	....	....	....	4
Totals,	1	3	....	4	2	....	2	3	2	2	1	2	22

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	4	....	....	....	4	2	1	....	3	5	2	3	24
German,	....	....	1	....	....	....	1	1	1	1	1	....	6
Polish,	1	....	....	3	2	2	3	3	2	6	5	1	28
Italian,	....	1	....	....	2	....	....	....	....	....	1	2	6
Slavonian,	1	....	....	....	1	....	....	....	....	1	....	....	3
Austrian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Russian,	....	1	1	3	....	2	1	1	....	2	1	....	12
Totals,	6	2	3	6	9	6	6	5	6	15	10	6	80

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.																
North Franklin Colliery:																
North Franklin No. 1, ..	Drift, ...	Non-gas., .	Fan, ...	18	6	5.4	70	0.8	Guibal, ...	Electricity, .	..	8	78,500	60,200	80,200	429
North Franklin No. 2, ..	Slope, ...	Non-gas., .	Fan, ...	18	6	5.5	80	2.1		Steam, ...	..	6	71,400	53,600	73,200	
North Franklin No. 3, ..	Slope, ...	Gaseous, ..	Fan, ...	15	5.1	4.5	50	1.1		Electricity, .	..	5	58,000	39,000	59,100	
Bear Valley Colliery:																
Bear Valley No. 1, ...	Shaft, ...	Gaseous, ..	Fan, ...	18	5.9	4.9	95	2.1	Guibal, ...	Steam, ...		7	47,000	44,000	48,000	428
Bear Valley No. 2, ...	Shaft, ...	Gaseous, ..	Fan, ...	12	4	3.6	55	0.5				3	27,500	26,000	28,400	
Bear Valley No. 3, ...	Drift, ...	Non-gas., .	Fan, ...	15	4	5	95	0.6				3	39,000	37,000	40,000	
Burnside Colliery:																
Burnside No. 1, ...	Drift, ...	Non-gas., .	Fan, ...	15	4.2	5.6	90	1.0	Guibal, ...	Steam, ...		4	40,600	36,000	42,000	516
Burnside No. 2, ...	Shaft, ...	Gaseous, ..	2 Fans, ..	15	4	5	90	1.1				6	41,400	37,600	42,600	
				15	4	5	90	1.2				4	41,000	37,000	42,000	
Stirling Colliery:																
Stirling No. 1, ...	Slope, ...	Gaseous, ..	3 Fans, ..	18	6	5.4	80	1.3	Guibal, ...	Steam, ...		8	34,000	32,000	35,000	244
				21	7.2	6	65	1.4				5	40,000	36,000	41,000	
				15	4.6	4.3	85	1.3				6	34,000	32,000	35,000	
Henry Clay Colliery:																
Henry Clay No. 1, ...	Shaft, ...	Gaseous, ..	2 Fans, ..	21	7	6.3	70	1.4	Guibal, ...	Steam, ...		7	53,000	50,000	54,000	276
				15	4	5	120	1.2				6	48,000	45,000	49,000	

Big Mountain Colliery:																
Big Mountain No. 1, ...	Drift, ...	Non-gas., .	Fan, ...	12	4	3.6	120	1.5	Guibal, ...	Steam, ...		3	24,000	21,500	25,000	274
Big Mountain No. 2, ...	Slope, ...	Gaseous, ..	Fan, ...	18	6	5.5	70	1.2				4	33,000	29,000	34,000	
Big Mountain No. 3, ...	Slope, ...	Gaseous, ..	Fan, ...	18	6	5.5	75	0.8				4	40,000	37,500	41,000	
Mineral Railroad and Mining Co.																
Cameron Colliery:																
Cameron No. 1, ...	Slope, ...	Gaseous, ..	Fan, ...	20	7	6.2	40	0.4	Guibal, ...	Steam, ...	..	7	59,000	57,000	62,000	742
Cameron No. 2, ...	Drift, ...	Gaseous, ..	Fan, ...	18	6	5.2	73	1.4		Electricity, .	..	8	18,900	18,000	19,600	
Cameron No. 3, ...	Slope, ...	Gaseous, ..	Fan, ...	18	7	5.3	100	2.7		Steam, ...	..	9	26,000	24,000	26,800	
Cameron No. 4, ...	Slope, ...	Gaseous, ..	Fan, ...	18	6	5.7	73	1.4		Steam, ...	..	8	43,000	39,000	45,000	
Cameron No. 5, ...	Shaft, ...	Gaseous, ..	2 Fans, ..	18	6	5.2	65	1.6		Steam, ...	..	8	20,200	18,000	20,600	
				16	6	5.3	96	2.4		Steam, ...	..	8	21,300	20,800	21,400	
Cameron No. 1,*	Drift, ...	Non-gas., .	....	......	......	......	......	......	....	....	..	..	......	......	......	......
Cameron No. 3,*	Drift, ...	Non-gas., .	....	......	......	......	......	......	....	....	..	..	......	......	......	......
Cameron No. 4,*	Drift, ...	Non-gas., .	....	......	......	......	......	......	....	....	..	..	......	......	......	......
Luke Fidler Colliery:																
Luke Fidler No. 1, ...	Shaft, ...	Gaseous, ..	Fan, ...	18	7	5	84	2.4	Guibal, ...	Steam, ...	..	3	54,600	50,700	56,700	372
Luke Fidler No. 2, ...	Shaft, ...	Gaseous, ..	2 Fans, ..	18	7	5.2	106	1.6	Guibal, ...	Steam, ...	..	5	88,900	86,700	91,600	
				16	6	5	103	2.0	Guibal, ...	Electricity, .	..	2	52,800	50,600	58,200	
Luke Fidler No. 3, ...	Drift, ...	Non-gas., .	Fan, ...	10	4.4	2	70	0.2	Sturtevant, ...	Steam, ...	..	2	13,600	11,200	14,500	
Hickory Ridge Colliery:																
Hickory Ridge No. 1, ...	Slope, ...	Gaseous, ..	Fan, ...	18	7	5.6	70	0.8	Guibal, ...	Steam, ...		5	70,300	68,000	75,000	523
Hickory Ridge No. 2, ...	Slope, ...	Gaseous, ..	Fan, ...	15	4.9	4.7	90	0.7				7	65,100	63,200	67,300	
Hickory Swamp Colliery:																
Hickory Swamp No. 1, ..	Slope, ...	Gaseous, ..	2 Fans, ..	16	5.5	4.5	80	1.2	Guibal, ...	Steam, ...		3	50,100	48,000	56,000	
				14	3.6	4.1	90	1.0				2	24,000	22,000	25,100	
Excelsior Coal Co.																
Corbin Colliery:																
Corbin No. 1, ...	Drift, ...	Non-gas., .	Fan, ...	10	3	3.6	100	1.3	Beadle, ...	Steam, ...		4	24,000	23,000	25,000	340
Corbin No. 2, ...	Drift, ...	Non-gas., .														
Corbin No. 3, ...	Slope, ...	Gaseous, ..	Fan, ...	12	5	5	90	2.1				2	27,000	24,000	28,000	
Corbin No. 4, ...	Slope, ...	Gaseous, ..	Fan, ...	12	5	5	90	2.2				4	26,000	24,000	27,000	
Corbin No. 5, ...	Drift, ...	Non-gas., .	Fan, ...	10	3	3.6	90	1.5				2	25,000	23,000	25,600	
Corbin No. 6, ...	Drift, ...	Non-gas., .														
Shipman Koal Co.																
Colbert Colliery:																
Colbert No. 1, ...	Shaft, ...	Gaseous, ..	Fan, ...	15	5	4	90	0.8	Guibal, ...	Steam, ...		4	52,000	40,000	53,500	272
Colbert No. 2, ...	Drift, ...	Gaseous, ..	Fan, ...	16	5	4	75	0.5				8	55,000	53,000	57,000	
Buck Ridge Coal Mining Co.																
Buck Ridge Colliery:																
Buck Ridge No. 1, ...	Slope, ...	Gaseous, ..	Fan, ...	14	4.6	4.6	85	0.5	Pollock, ...	Steam, ...		7	35,000	33,000	37,500	275
Buck Ridge No. 2, ...	Drift, ...	Non-gas., .	Fan, ...	18	5.5	5.5	48	0.3	Guibal, ...			8	30,600	29,000	32,800	
				5	2.2	2.2	150	0.2	Stine, ...			2	7,000	6,000	7,600	
Buck Ridge No. 3, ...	Slope, ...	Non-gas., .	3 Fans, ..	6	2.2	2.2	168	0.2	Stine, ...			2	7,000	6,400	7,400	
				12	3.6	3.6	50	0.2	Guibal, ...			3	9,000	8,000	10,000	

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*Abandoned.

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Trevorton Colliery Co.																
Katherine Colliery:																
Katherine No. 1, ...	Drift, ...	Non-gas., .	Fan, ...	7	3.1	2.10	360	0.7	Stine, ...	Steam, ...		7	32,900	30,800	33,800	274
Katherine No. 2, ...	Drift, ...	Non-gas., .														
Katherine No. 3, ...	Drift, ...	Non-gas., .	Fan, ...	7	2	2.10	360	0.1				3	30,800	26,400	31,900	

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.						
Bear Valley, ...	Northumberland,	W. J. Richards, General Manager.	Pottsville, ...	Reese Tasker, Mining Supt. P. F. Brennan, Division Supt. John C. Brown, Inside District Supt. J. P. Knapp, Outside District Supt.	Pottsville, ... Shamokin, ... Shamokin, ... Shamokin, ...	P. and R.
Big Mountain, ...						
Burnside, ...						
Henry Clay, ...						
North Franklin, ...						
Stirling, ...						
Mineral Railroad and Mining Co.						
Cameron, ...	Northumberland,	Robert A. Quin, ...	Wilkes-Barre, ...	W. R. Reinhardt, ...	Shamokin, ...	Pennsylvania
Hickory Ridge, ...						
Hickory Swamp, ...						
Hickory Swamp Washery, .						
Luke Fidler, ...						
Excelsior Coal Co.						
Corbin, ...	Northumberland,	George W. Robertson,	Shamokin, ...	....	....	P. and R.
Shipman Koal Co.						
Colbert, ...	Northumberland,	J. M. Stauffer, ...	Hazleton, ...	D. T. Campbell, ...	Shamokin, ...	Pennsylvania
Buck Ridge Coal Mining Co.						
Buck Ridge, ...	Northumberland,	D. H. McGee, ...	Shamokin, ...	....	....	Pennsylvania and P. and R.
Trevorton Colliery Co.						
Katherine, ...	Northumberland,	C. T. Starr, ...	Shamokin, ...	....	....	P. and R.

TABLE 2 —Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.													
North Franklin,	Northumberland,	351,331	32,773	6,520	390,624	267	641	1	12	180,850	72,698	....	52
Bear Valley,		248,269	28,894	970	278,133	238	670	2	8	136,975	61,800	....	57
Burnside,		362,140	55,793	9,787	427,720	263	737	......	4	163,925	47,864	....	95
Stirling,							272	4	2	85,450	11,104	....	
Henry Clay,		296,954	41,038	23,273	361,265	266	478	2	2	93,750	13,154	12,111	85
Big Mountain,							330	......	3	63,375	22,996	....	
Totals,	....	1,258,694	158,498	40,550	1,457,742	......	3,128	9	31	724,325	229,616	12,111	289
Mineral Railroad and Mining Co.													
Cameron,	Northumberland,	353,284	42,511	15,639	411,434	229	1,033	3	6	130,425	32,521	3,350	98
Luke Fidler,		157,528	26,973	8,462	192,963	216	562	1	7	67,925	17,243	620	68
Hickory Ridge,		280,168	23,460	939	304,567	241	818	3	11	127,650	77,713	....	87
Hickory Swamp,													
		790,980	92,944	25,040	908,964	......	2,413	7	24	326,000	127,477	3,970	253
Hickory Swamp Washery,	Northumberland,	34,107	8,910	....	43,017	192	34	......	......	....	....	....	......
Totals,	....	825,087	101,854	25,040	951,981	......	2,447	7	24	326,000	127,477	3,970	253
Excelsior Coal Co.													
Corbin,	Northumberland,	196,395	30,000	389	226,784	278	549	2	5	225,000	15,575	....	55

Shipman Koal Co.												
Colbert,	Northumberland,	154,312	19,200	618	174,130	284	431	1	4	40,550	42,500	....	30
Buck Ridge Coal Mining Co.												
Buck Ridge,	Northumberland,	97,768	15,900	1,599	115,267	266	344	2	14	12,475	76,000	....	25
Trevorton Colliery Co.												
Katherine,	Northumberland,	104,294	6,735	1,133	112,162	220	340	1	2	7,870	26,789	22,332	25
Grand totals,	....	2,636,550	332,187	69,329	3,038,066	......	7,239	22	80	1,336,220	517,957	38,413	677

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Philadelphia and Reading Coal and Iron Co.,	Northumberland,	......	......	66	8,250	8,250	7	......	10	152	18,908	19	28,707	8,672	5	6
Mineral Railroad and Mining Co.,		......	......	52	7,002	7,002	9	......	3	86	8,721	13	10,490	5,188	3	5
Excelsior Coal Co.,		20	640	4	250	890	3	......	......	8	240	2	468	300	......	......
Shipman Koal Co.,		......	......	10	1,275	1,275	2	......	......	20	1,078	3	1,536	512	......	1
Buck Ridge Coal Mining Co.,		......	......	9	1,430	1,430	2	......	......	20	707	4	1,600	915	......	2
Trevorton Colliery Co.,		......	......	3	900	900	1	......	......	8	450	......	......	......	......	1
Totals,	....	20	640	144	19,107	19,747	24	......	13	294	30,104	41	42,801	15,587	8	15

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Philadelphia and Reading Coal and Iron Co.	Northumberland,	7	37	....	858	379	141	19	15	330	405	2,191	....	8	30	118	82	41	16	642	937	3,128
Mineral Railroad and Mining Co., ...		4	10	35	687	208	114	21	18	49	491	1,637	....	4	45	110	228	16	28	379	810	2,447
Excelsior Coal Co.		1	3	3	226	91	40	....	3	49	27	443	1	1	13	17	10	10	2	52	106	549
Shipman Koal Co., ...		2	....	5	142	33	22	3	6	36	23	272	1	1	9	22	33	8	3	82	159	431
Buck Ridge Coal Mining Co., ...		1	....	5	133	33	29	1	5	52	16	275	1	2	6	16	13	....	1	30	69	344
Trevorton Colliery Co.,		1	....	3	93	25	7	11	....	134	....	274	1	1	13	33	11	....	2	5	66	340
Totals, ...	....	16	50	51	2,139	769	353	55	47	650	962	5,092	4	17	116	316	377	75	52	1,190	2,147	7,239

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Philadelphia and Reading Coal and Iron Co.,	Northumberland,	25	22	20	25	19	25	19	16	18	26	23	21	259
Mineral Railroad and Mining Co.,	Northumberland,	23	17	15	18	20	21	17	16	20	21	20	21	229
Excelsior Coal Co.,	Northumberland,	24	23	23	23	23	24	23	23	23	25	21	23	278
Shipman Koal Co.,	Northumberland,	25	22	22	21	25	25	25	23	25	25	23	23	284
Buck Ridge Coal Mining Co.,	Northumberland,	23	21	26	25	21	17	18	24	24	23	21	23	266
Trevorton Colliery Co.,	Northumberland,	24	21	11	17	20	20	15	17	19	19	17	20	220

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 31	Joseph Barko,	Russian,	Laborer,	18	S.	....	....	Hickory Ridge,	Northumberland.	Killed by fall of slate at face while robbing pillars.
Feb. 6	Edward Nankeville,	American,	Laborer,	31	M.	1	1	Buck Ridge,		Killed by explosion of dynamite in tunnel. It exploded while being thawed.
15	Philip Phillipi,	Russian,	Laborer,	32	S.	....	....	Colbert,		Killed by fall of top coal at face of breast.
27	John Fleming,	American,	Bottom man,	21	S.	....	....	North Franklin.		Killed between mine cars at bottom of slope while coupling them.
April 5	Harry Verage,	Russian,	Miner,	45	S.	....	....	Corbin,		Killed by fall of coal at face of breast.
8	Robert Boyd,	American,	Timberman,	43	M.	1	3	Cameron,		Killed by fall of rock on gangway.
10	Mike Bondura,	Polish,	Laborer,	63	M.	1	....	Hickory Ridge,		Fatally injured by being squeezed between mine cars at breaker tip. Outside.
14	Joseph Glassick,	Polish,	Miner,	42	M.	1	5	Stirling,		Fatally injured by premature blast at face of work.
May 16	Andrew Checoskie,	Polish,	Laborer,	29	M.	1	....	Stirling,		Killed by fall of coal at face of gangway.
19	Enoch Cona,	Russian,	Miner,	24	M.	1	....	Henry Clay,		Fatally injured by premature blast at face of breast.
July 23	Miles Dougherty,	American,	Car loader,	19	S.	....	....	Bear Valley,		Killed by railroad car running over him under breaker. Outside.
30	Adam Luskuskie,	Polish,	Miner,	27	M.	1	2	Stirling,		Killed by fall of coal.
Aug. 7	Joseph Broskie,	Polish,	Miner,	31	M.	1	3	Henry Clay,		Killed by suffocation by gas.
25	Zacharias Hand,	American,	Laborer,	65	M.	1	....	Katherine,		Killed by being struck by ash dumper under breaker. Outside.
26	John Murray,	American,	Miner,	47	M.	1	2	Cameron,		Killed by falling down breast.
Sept. 23	Stanley Sullisavage,	Lithuanian,	Laborer,	27	S.	....	....	Luke Fidler,		Killed by fall of top coal at face of gangway.
25	Fred Dominick,	Italian,	Miner,	28	S.	....	....	Stirling,		Killed by fall of coal at face of breast.
Oct. 14	Alex Yenconis,	Polish,	Miner,	36	S.	....	....	Buck Ridge,		Fatally burned by explosion of gas at face of breast.
25	Samuel Jones,	American,	Topman,	21	S.	....	....	Hickory Swamp,		Killed by being caught betweeen prop and mine car that jumped the track at top of inside slope.
Nov. 4	Arthur Jones,	Welsh,	Miner,	34	M.	1	4	Bear Valley,		Killed by fall of timber and coal when car jumped track and knocked out set of timber.
Dec. 17	Joseph Zarcofskie,	Polish,	Laborer,	22	S.	....	....	Corbin,		Killed by fall of top slate at face of breast.
19	Mike Luke,	Austrian,	Miner,	35	M.	1	3	Cameron,		Killed by falling under mine car while riding up the slope on the spreader chain.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	14	William Knowles,	American,	Conductor,	19	S.	Hickory Ridge,	Northumberland.	Body bruised while coupling cars. Outside.
	14	John Esher,	American,	Carpenter,	21	S.	Hickory Ridge,		Back hurt by falling on rail while pushing empty car. Outside.
	20	Clarence L. Hoover,	American,	Assistant foreman	50	M.	Colbert,		Several ribs fractured by fall of rock at face of work.
	27	Frank Sinderock,	Slavonian,	Miner,	28	M.	Burnside,		Back bruised by fall of slate at face of gangway.
	28	William Arnish,	Polish,	Miner,	34	M.	Big Mountain,		Body bruised while attempting to cross between cars on gangway.
	29	William Mitchell,	American,	Timberman,	43	M.	Cameron,		Collar bone fractured while unloading timber. Outside.
Feb.	17	Charles Yadloskie,	Russian,	Miner,	51	M.	Buck Ridge,		Shoulder bruised by fall of coal at face of breast.
	26	Frank Bergamine,	Italian,	Miner,	48	S.	Hickory Ridge,		Burned by explosion of gas in chute caused by open light.
March	5	Ray Schuey,	German,	Loader,	20	S.	Bear Valley,		Shoulder dislocated by falling off mule on gangway.
	19	John Borack,	Russian,	Miner,	34	M.	Hickory Ridge,		Foot bruised by fall of coal at face of breast.
	25	John Gogilla,	Austrian,	Laborer,	43	S.	Cameron,		Burned by gas when he went into old breast workings with open light.
April	7	Anthony Sweeti,	Polish,	Miner,	41	M.	Luke Fidler,		Rib fractured by being struck by piece of coal sliding down chute.
	11	William Petroskie,	Polish,	Miner,	24	S.	North Franklin,		Leg broken by fall of coal at face of breast.
	12	Leo Kopresko,	Polish,	Laborer,	22	S.	Colbert,		Leg broken by fall of rock while loading car on gangway.
		Joseph Downies,	Russian,	Miner,	40	M.	Cameron,		Head and body bruised and lacerated by falling down manway.
	15	Andrew Bendos,	Russian,	Miner,	37	M.	Corbin,		Leg broken by fall of slate at face of breast.
	29	Peter Sovetskie,	Russian,	Miner,	40	M.	Hickory Ridge,		Hand badly cut by fall of coal at face of breast.
May	2	Alex Williams,	American,	Engineer,	45	M.	Katherine,		Hand broken by being struck by flying rope from runaway car. Outside.
	10	John Sockaloskie,	Polish,	Driver,	26	S.	Buck Ridge,		Hips squeezed between car and prop on gangway.
	12	Freeman Neidig,	American,	Repairman,	53	M.	Katherine,		Leg broken by being bumped between cars. Outside.
	13	Fred Lauer,	American,	Miner,	38	M.	North Franklin,		Leg fractured by fall of coal at face of breast.

May	13	John Viscovich, ...	Italian, ...	Miner, ...	28	M.	North Franklin, ...	Northumberland.	Burned by gas generated from carbide in can.
	14	Michael Krock, ...	Slavonian, .	Miner, ...	35	M.	Burnside, ...		Burned by gas at face of chute ignited by open light.
	16	Frank Scandel, ...	Italian, ...	Driver, ...	17	S.	Cameron, ...		Hips squeezed between prop and car on gangway.
	20	George Baches, ...	American,...	Driver, ...	19	S.	Luke Fidler, ...		Leg crushed by falling under mine car on which he was riding on gangway.
	23	Theodore Fedock, ...	Polish, ...	Miner, ...	51	M.	Hickory Ridge, ...		Leg broken by fall of coal at face of breast.
June	2	Fred Hoffman, ...	American,...	Miner, ...	53	M.	Hickory Ridge, ...		Two ribs fractured by being struck by mine buggy while dumping it at chute on counter gangway.
	11	Lewis Holgash, ...	Polish, ...	Laborer, ...	40	M.	Bear Valley, ...		Leg cut off on railroad while going home from work. Outside.
	12	Andrew Witgaskie, ...	Polish, ...	Miner, ...	60	M.	Big Mountain, ...		Leg broken by fall of slate at face of breast.
	13	John Griewskie, ...	Russian, ...	Miner, ...	29	M.	Colbert, ...		Burned by gas at face of breast ignited by open light.
	16	Paul Smithana, ...	Russian, ...	Miner, ...	41	M.	Corbin, ...		Face and body bruised by premature blast at face of breast.
	17	Irvin Troon, ...	American,...	Laborer, ...	18	S.	Henry Clay, ...		Leg broken between cars. Outside.
July	7	Anthony Shender, ...	Polish, ...	Miner, ...	22	S.	Bear Valley, ...		Burned by powder.
	14	Charles Madden, ...	American, ..	Jig runner, ...	16	S.	Hickory Ridge, ...		Toe cut off by sheet iron falling on it. Outside.
	24	Michael Pustenik, ...	Russian, ...	Laborer, ...	43	M.	Hickory Ridge, ...		Leg broken by being caught between cars at bottom of slope.
	24	Frank Lephole, ...	German, ...	Miner, ...	30	M.	Hickory Ridge, ...		Face burned by gas.
	28	Victor Shevitskie, ..	Polish, ...	Miner, ...	42	M.	Buck Ridge, ...		Face and hands burned by gas in heading.
		Robert Smoogen, ...	Polish, ...	Miner, ...	24	S.			
Aug.	4	John Shevitskie, ...	Polish, ...	Laborer, ...	45	S.	Luke Fidler, ...		Body bruised by falling under car on gangway.
	18	Benjamin Volinsky, ..	Polish, ...	Miner, ...	25	M.	Corbin, ...		Arm fractured by fall of slate at face of breast.
	19	Jacob Blattize, ...	German, ...	Miner, ...	40	M.	Buck Ridge, ...		Face and hands burned by gas at face of breast.
		Anthony Boshinskie,	Polish, ...	Laborer, ...	26	S.			
	20	Paul Bohack, ...	Russian, ...	Feeder, ...	16	S.	Henry Clay, ...		Leg lacerated in breaker rolls. Outside.
Sept.	2	Francis Kerstetter, ..	American,...	Miner, ...	30	M.	Stirling, ...		Collar bone broken by fall of coal at face of breast.
	3	Andrew Keltico, ...	Polish, ...	Miner, ...	33	M.	Big Mountain, ...		Leg broken by fall of rock at face of breast.
	11	Joseph Miluskas, ...	Polish, ...	Slatepicker, ...	15	S.	Luke Fidler, ...		Foot crushed by falling under truck with which he was playing at noon hour. Outside.
		Russel Kline, ...	American,...	Miner, ...	25	S.	North Franklin, ...		Face and hands cut by explosion of dynamite caps in his pocket, on gangway.
	18	Frank Lagerman, ...	American,...	Loader boss, ...	57	M.	North Franklin, ...		Leg broken by being struck by car at bottom of slope.
	19	Frank Yost, ...	German, ...	Laborer, ...	45	M.	Buck Ridge, ...		Leg broken by fall of slate at face of gangway.
Oct.	1	Joseph Barcufskie, ...	Polish, ...	Loader, ...	18	S.	Luke Fidler, ...		Back broken by fall of rock on gangway.
	11	Joseph Felon, ...	American,...	Driver, ...	24	S.	North Franklin, ...		Ribs and shoulder broken by being squeezed between mules on gangway.
	14	Alex Katkoskie, ...	Polish, ...	Miner, ...	38	M.	Buck Ridge, ...		Face and hands burned by gas at face of breast.
	16	Elmer Gottshall, ...	American,...	Miner, ...	23	M.	North Franklin, ...		Face and arms cut by dynamite caps exploding in his pocket at working face.
	16	Charles Getter, ...	German, ...	Laborer, ...	43	S.	Bear Valley, ...		Leg broken by fall of coal in gangway.
	17	Bolick Shipluskie, .	Polish, ...	Miner, ...	25	M.	Bear Valley, ...		Face and hands burned by gas at face of breast.
		William Rokoskie, ..	Polish, ...	Miner, ...	24	S.			
		Daniel Maclosh, ...	Russian, ...	Laborer, ...	32	M.			
		Edward Hoffa, ...	American,...	Laborer, ...	29	M.			

TABLE 5.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Oct.	17	Joseph Siskoskie,	Russian,	Miner,	33	M.	Luke Fidler,	Northumberland.	Burned by gas at face of breast.
		Alex. Albert,	Polish,	Laborer,	21	S.			
	18	Charles Woobidge,	American,	Miner,	61	M.	Cameron,		Ribs broken by falling from top of mine car on gangway.
	23	Frank Linderman,	American,	Driver,	28	M.	Buck Ridge,		Body bruised between chute and mine car on gangway.
	24	Joseph Boginskie,	Polish,	Miner,	38	M.	North Franklin,		Leg broken by fall of coal at face of breast.
	25	Anthony Persick,	Slavonian,	Driver,	19	S.	North Franklin,		Leg crushed between cars on gangway.
Nov.	3	Frank Purcell,	American,	Bottom man,	28	M.	Corbin,		Leg broken by lump of coal rolling on him at foot of slope.
	5	Mike Grego,	Polish,	Driver,	24	M.	Burnside,		Skull fractured by kick of mule on gangway.
	10	Nick Martell,	Italian,	Miner,	27	M.	Hickory Ridge,		Face and hands burned by gas at face of breast.
	11	James Bugden,	Polish,	Miner,	35	M.	Buck Ridge,		Foot broken by fall of coal at face of chute.
	13	Edward Munshour,	German,	Miner,	42	M.	Stirling,		Leg broken by fall of coal at face of breast.
	14	Mike Shelbit,	Russian,	Miner,	25	S.	Burnside,		Face and hands burned by gas at face of chute.
	17	Theodore Sheptock,	Polish,	Driver,	21	S.	Buck Ridge,		Face cut by explosion of dynamite on gangway while helping the starter.
	20	E. Eaton,	American,	Laborer,	35	S.	Buck Ridge,		Three ribs fractured by runaway cars striking him on slope.
	21	Frank Cheslock,	Polish,	Miner,	36	M.	Buck Ridge,		Body bruised by being knocked out of car while riding up slope.
		Joseph Gangle,	Polish,	Miner,	36	M.			
Dec.	1	Louis C. Herr,	American,	Miner,	33	M.	Cameron,		Leg broken by fall of coal at face of breast.
	2	Peter Bobrovitskie,	American,	Miner,	22	S.	Colbert,		Back broken by fall of top rock at face of breast.
	12	Peter Fogetta,	Italian,	Miner,	38	M.	North Franklin,		Face and hands burned by gas at face of chute.
		Joseph Kolso,	Italian,	Repairman,	30	S.	North Franklin,		Shoulder broken by gangway door blowing against him.
	22	Curtis Derr,	American,	Miner,	33	M.	Corbin,		Pelvic bone broken by fall of slate at face of chute.
		Joseph Seleskie,	Polish,	Laborer,	22	S.	North Franklin,		Both legs broken by fall of coal at face of gangway.

CONDITION OF COLLIERIES

PHILADELPHIA AND READING COAL AND IRON COMPANY

North Franklin, Bear Valley, Burnside, Stirling, Henry Clay and Big Mountain Collieries.—Ventilation, drainage and condition as to safety good.

MINERAL RAILROAD AND MINING COMPANY

Cameron and Hickory Ridge Collieries.—Ventilation, drainage and condition as to safety good.

Luke Fidler and Hickory Swamp Collieries.—Ventilation and condition as to safety good; drainage fair.

EXCELSIOR COAL COMPANY

Corbin Colliery.--Ventilation and condition as to safety good.

SHIPMAN KOAL COMPANY

Colbert Colliery.—Ventilation, drainage and condition as to safety good.

BUCK RIDGE COAL MINING COMPANY

Buck Ridge Colliery.—Ventilation, drainage and condition as to safety good.

TREVORTON COLLIERY COMPANY

Katherine Colliery.—Ventilation fair; drainage and condition as to safety good.

IMPROVEMENTS

PHILADELPHIA AND READING COAL AND IRON COMPANY

North Franklin Colliery.—An underground slope, 992 feet was driven in No. 5 vein water level workings. A tunnel 89 feet was driven in the Short slope, second lift, from No. 9 vein south to No. 8 vein. Built an outside stable 108 by 41 feet. A 400 K. W. electric generator and engine was installed in the power house, and the power house was enlarged by the addition of a brick building 27 by 35 feet. The inside stable and outside buildings are lighted by electricity.

Bear Valley Colliery.—A tunnel 350 feet was driven in No. 2 shaft from No. 10 to No. 11 vein. Electric haulage was installed in No. 1 shaft, east side. An ash-wash system was installed in the boiler house for handling the ashes.

Completed outside power plane 810 feet long, operated by an electric engine, to handle the coal from the Delbaugh drift. A 20-ton dump car, operated by electric motor, was installed for handling refuse. A 70-ton Bucyrus steam shovel was installed for the purpose of stripping the Mammoth vein.

Burnside Colliery.—Electric hoists were installed on No. 7 power plane in No. 10 vein, second lift, and on No. 8 power plane in No. 8 vein, third lift, north dip.

Stirling Colliery.—An air tunnel 107 feet long, 12 by 8 feet was driven on a pitch of 25 degrees from No. 7 vein counter to No. 8 vein. A power bore hole 10 inches in diameter was drilled to the fourth lift, a distance of 480 feet. A column bore hole 16 inches in diameter was drilled to the fourth lift pump room, a distance of 470 feet. Installed an air compressor, 22 by 24 by 15 by 24 inches to furnish power for an air engine inside and for tunnel driving.

MINERAL RAILROAD AND MINING COMPANY

Cameron Colliery.—Built a concrete block bath house 56 feet long and 25 feet wide for the miners. The house is equipped with lockers, hot and cold water sprays, heated by steam and is in charge of an attendant daily. Built an emergency hospital of reinforced concrete for first aid to injured employes. A tunnel 357 feet was driven from No. 10½ vein to No. 11 vein. A slope is being sunk in No. 9 vein, shaft workings, to the basin. Built a fireproof engine house inside, 35 by 15 by 9½ feet high, and installed a single engine 18 inches by 36 inches to sink the slope. A tunnel was driven in rock slope from No. 9 to No. 8 vein, 90 feet.

The following tunnels were driven: In rock slope from No. 9½ vein to rock slope, 48 feet; from No. 6 vein to No. 5 vein, 55 feet; in No. 1 slope from No. 7½ vein to No. 7 vein, 85 feet, to make a new haulage way; in No. 3 slope from No. 6 vein to No. 5 vein, 85 feet.

Luke Fidler Colliery.—A bath house for the miners is in course of construction. The breaker has been changed from a dry to a wet breaker and six new style Christ jigs have been installed. A rock airway was driven from No. 1 shaft east bottom gangway to No. 5½ gangway, a distance of 250 feet, for a return airway. A traveling way was driven from No. 2 shaft bottom to No. 1 shaft bottom, a distance of 930 feet. An emergency hospital of concrete is in course of construction.

A tunnel was driven from No. 4 vein to No. 5 vein east, in No. 1 shaft, a distance of 159 feet.

Hickory Ridge Colliery.—Built a fireproof supply house 75 feet long by 20 feet wide for the storing of supplies and mine material. A reinforced concrete retaining wall, 200 feet long and 7 feet high, was built on the north side of the boiler house. A tunnel was driven from No. 5 vein to No. 9 vein, a distance of 269 feet. An outlet was driven in No. 8 vein, in No. 6 slope, south tunnel workings, a distance of 370 feet to the surface.

Hickory Swamp Colliery.—Built an aerial tramway 1,500 feet long to convey ashes from the boiler house to the mountain. Drove a tunnel 497 feet from No. 8 vein to No. 4 vein. A 20-inch bore hole is being drilled, and when completed will be used for a column hole.

EXCELSIOR COAL COMPANY

Corbin Colliery.—8 new Christ jigs have been installed in the breaker to take the place of 7 plunger jigs.

SHIPMAN KOAL COMPANY

Colbert Colliery.—Built a concrete locomotive house, 24 by 14 by 12 feet high, and a concrete bath house 40 feet long by 14 feet wide by 10 feet high. A 12-ton locomotive was installed to convey refuse from the breaker.

The following tunnels were driven from No. 9 to No. 8 vein, in the shaft fourth lift, 50 feet; from No. 9 to No. 9½ vein, in shaft, 55 feet; in the middle lift, from No. 9 to No. 9½ vein, 170 feet; from No. 9 to No. 9½ vein, 75 feet.

An air tunnel 330 feet was driven in the shaft first lift from No. 5 vein to No. 9 vein. The slope has been extended 300 feet from the middle lift to the shaft first lift east. Built a concrete pump house in the shaft and installed a 10 by 48 inch Allison duplex pump.

BUCK RIDGE COAL MINING COMPANY

Buck Ridge Colliery.—A concrete pump house was built in No. 4 slope. A concrete stable 20 feet long by 12 feet wide was built inside.

The following tunnels were driven: In No. 4 slope, from No. 14 vein, north dip, to No. 14 vein, south dip, 114 feet; in rock slope, from No. 13 to No. 14 vein, south dip, 223 feet; from No. 14 vein, south dip to No. 14 vein, north dip, 140 feet. An air tunnel 290 feet was driven from No. 13 vein, south dip, to No. 14 vein, north dip.

TREVORTON COLLIERY COMPANY

Katherine Colliery.—A slope was driven in No. 1 tunnel workings, in the east No. 2 vein, a distance of 175 feet to the basin.

The following tunnels were driven: From No. 2 vein to No. 3 vein, 90 feet, in No. 1 tunnel workings; in No. 2 tunnel workings, from No. 2 vein to No. 3 vein, 208 feet; in No. 3 tunnel workings, from east No. 5 split vein to No. 8 vein, 113 feet.

Erected steam line, 3,610 feet long, from No. 1 tunnel to No. 3 tunnel, and a compressed air line, 3,455 feet long, of 2½, 3 and 4 inch pipe. A 300 H. P. water tube boiler was installed. One improved automatic Christ jig was placed in the breaker. An engine, 8½ by 10 inches was installed on No. 3 plane.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Pottsville, March 25 and 26. The Board of Examiners was composed of P. J. Friel, Mine Inspector, Shamokin; Edward Brennan, Superintendent, Shamokin; William D. Culton, Miner, Shamokin; John F. Drumheiser, Miner, Shamokin.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Bert Golden, Joseph McCormack, James Golden, Philip J. Myer, Jesse McCracken, John Berry, Shamokin; Robert Kramer, William R. Plummer, Trevorton.

ASSISTANT MINE FOREMEN

Richard Davis, William A. McCall, Stanley Magasky, James J. Buggy, William J. Williams, James H. Semmons, Thomas J. Rupp, John Heath, Henry Shovlin, Harry Snyder, George Buckner, Shamokin; Alonzo Dennison, Ira Long, Trevorton; Michael Galda, Kulpmont.

SEVENTEENTH DISTRICT

CARBON AND SCHUYLKILL COUNTIES

Lansford, Pa., February 28, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines for the Seventeenth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

ISAAC M. DAVIES, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	10
Number of mines,	39
Number of mines in operation,	39
Number of tons of coal shipped to market,	4,160,427
Number of tons used at mines for steam and heat,	596,239
Number of tons sold to local trade and used by employes,	146,193
Number of tons produced,	4,902,859
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	6,713
Number of persons employed outside,	2,975
Number of fatal accidents inside of mines,	26
Number of fatal accidents outside,	7
Number of non-fatal accidents inside of mines,	20
Number of non-fatal accidents outside,	6
Number of tons of coal produced per fatal accident inside,	188,571
Number of tons produced per fatal accident outside,	700,408
Number of tons produced per fatal accident inside and outside,	148,571
Number of persons employed per fatal accident inside,	258
Number of persons employed per fatal accident outside,	425
Number of persons employed per fatal accident inside and outside,	293
Number of persons employed per non-fatal accident inside,	336
Number of persons employed per non-fatal accident outside,	496
Number of persons employed per non-fatal accident inside and outside,	372
Number of wives made widows,	23
Number of children made orphans,	46
Number of steam locomotives used inside of mines,	3
Number of steam locomotives used outside,	46
Number of compressed air locomotives used inside,	2
Number of compressed air locomotives used outside,	....
Number of electric motors used inside.	60
Number of electric motors used outside,	1
Number of gasoline locomotives used inside,	5
Number of fans in use,	22
Number of furnaces in use,	....
Number of gaseous mines in operation,	19
Number of non-gaseous mines in operation,	20
Number of new mines opened,	4
Number of old mines abandoned,	2

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Lehigh Coal and Navigation Company,	4,324,561
Estate A. S. Van Wickle,	284,773
Coxe Brothers and Company, Incorporated,	257,711
Evans Colliery Company,	30,480
Moses Neyer,	5,334
Total,	4,902,859

Production by Counties

Carbon,	2,985,308
Schuylkill,	1,917,551
Total,	4,902,859

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh Coal and Navigation Co., ...	23	6	29	17	5	22	188,024	288,304	6,009	2,531	8,540	261	422	353	506
Estate A. S. Van Wickle, ...	1	1	2	1	......	1	284,773	284,773	405	215	620	405	215	405	215
Coxe Brothers and Co., Inc., ...	......	......	......	1	1	2	....	257,711	231	194	425	....	....	231	194
Evans Colliery Co., ...	2	......	2	1	......	1	15,240	30,480	63	31	94	32	....	63	....
Miscellaneous Companies, ...	......	......	......	......	......	......	....	....	5	4	9	....	....	....	....
Totals and averages for district, ...	26	7	33	20	6	26	188,571	245,142	6,713	2,975	9,688	258	425	336	496

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	....	....	....	....	1	....	....	....	....	1	....	2	7.69
Falls of roof, ...	2	....	....	....	1	....	1	....	....	....	....	....	4	15.38
Mine cars, ...	....	1	....	....	1	1	...	....	....	....	....	....	3	11.54
Explosions of gas, ...	....	....	....	....	....	....	1	....	....	1	2	....	4	15.38
Falling into shafts, ..	....	....	....	....	....	....	1	1	....	....	....	2	4	15.38
Falling into slopes, etc., ...	1	....	....	....	....	....	....	....	....	....	....	....	1	3.85
Crushed at batteries, ..	....	1	....	....	....	....	1	....	....	....	....	....	2	7.69
Electricity, ...	....	....	....	....	....	....	1	....	....	....	....	....	1	3.85
Rush of coal, ...	1	1	....	....	....	....	....	....	....	....	....	....	2	7.70
Struck by timber, ...	....	....	....	....	....	....	....	1	....	....	....	....	1	3.84
Suffocated by falling into box chute, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	3.85
Struck by gate, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	3.85
Totals, ...	4	3	....	....	2	2	5	2	....	3	3	2	26	100.00
Causes of Accidents Outside														
Cars, ...	1	2	....	....	2	....	....	....	....	....	1	....	6	85.71
Struck by cog wheel, ..	....	....	....	....	....	....	....	....	....	....	....	1	1	14.29
Totals, ...	1	2	....	....	2	....	....	....	....	....	1	1	7	100.00
Grand totals inside and outside, ...	5	5	....	....	4	2	5	2	....	3	4	3	33	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of slate, ...	....	1	....	....	....	....	....	....	....	....	....	....	1	5.00
Falls of roof, ...	...	1	....	....	....	1	....	....	....	....	1	....	3	15.00
Mine cars, ...	....	....	....	1	....	....	1	....	....	....	1	....	3	15.00
Explosions of gas, ...	1	....	....	....	....	....	2	1	....	3	....	....	7	35.00
Struck by timber, ...	....	....	....	....	1	....	....	1	....	1	....	....	3	15.00
Struck by piece of iron, ...	....	....	....	....	....	....	1	....	....	....	....	....	1	5.00
Struck by chain block,	....	....	....	....	....	....	....	1	....	....	....	....	1	5.00
Struck by piece of rock, ...	....	....	....	....	....	....	....	1	....	....	....	....	1	5.00
Totals, ...	1	2	....	1	1	1	4	4	....	4	2	....	20	100.00
Causes of Accidents Outside														
Cars, ...	....	1	....	1	....	....	....	....	....	....	....	....	2	33.34
By falling, ...	....	1	....	....	....	....	....	....	1	....	....	....	2	33.34
Explosion of blast, ...	....	....	....	....	....	....	1	....	....	....	....	....	1	16.66
Struck by lever, ...	....	....	....	....	....	....	....	....	....	....	....	1	1	16.66
Totals, ...	....	2	....	1	....	....	1	....	1	....	....	1	6	100.00
Grand totals inside and outside, ...	1	4	....	2	1	1	5	4	1	4	2	1	26	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	3	1	....	....	....	1	4	1	....	2	2	2	16
Miners' laborers,	....	2	....	....	....	1	....	1	....	....	1	....	5
Doorboys and helpers,	....	....	....	....	1	....	....	....	....	....	....	....	1
Loaders,	1	....	....	....	....	....	....	....	....	....	....	....	1
Mucker bosses,	....	....	....	....	1	....	....	....	....	....	....	....	1
Machinists,	....	....	....	....	....	....	1	....	....	....	....	....	1
Batterymen,	....	....	....	....	....	....	....	....	....	1	....	....	1
Totals,	4	3	....	....	2	2	5	2	....	3	3	2	26
Outside													
Laborers,	1	2	....	....	2	....	....	....	....	....	1	1	7
Totals,	1	2	....	....	2	....	....	....	....	....	1	1	7
Grand totals inside and outside,	5	5	....	....	4	2	5	2	....	3	4	3	33

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Assistant mine foremen,	....	....	....	....	....	1	....	....	....	....	....	....	1
Fire bosses and assistants,	....	....	....	....	....	....	....	....	....	....	1	....	1
Miners,	1	2	....	....	1	....	1	2	....	2	1	....	10
Miners' laborers,	....	....	....	....	....	....	....	2	....	2	....	....	4
Drivers and runners,	....	....	....	1	....	....	....	....	....	....	....	....	1
Pole men,	....	....	....	....	....	....	2	....	....	....	....	....	2
Motormen,	....	....	....	....	....	....	1	....	....	....	....	....	1
Totals,	1	2	....	1	1	1	4	4	....	4	2	....	20
Outside													
Foremen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Engineers and firemen,	....	1	....	....	....	....	....	....	....	....	....	....	1
Loaders,	....	....	....	....	....	....	1	....	....	....	....	....	1
Laborers,	....	1	....	1	....	....	....	....	1	....	....	....	3
Totals,	....	2	....	1	....	....	1	....	1	....	....	1	6
Grand totals inside and outside,	1	4	....	2	1	1	5	4	1	4	2	1	26

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	1	....	....	1	....	2	....	....	1	2	....	8
Polish,	1	....	....	....	....	....	1	....	....	....	....	1	3
Hungarian,	....	1	....	....	....	....	....	....	....	....	....	....	1
Italian,	1	....	....	....	1	....	....	....	....	....	....	....	2
Slavonian,	1	3	....	....	2	1	1	2	....	1	2	1	14
Austrian,	1	....	....	....	....	1	....	....	....	....	....	....	2
Russian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Greek,	....	....	....	....	....	....	1	....	....	....	....	....	1
Horwat,	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals,	5	5	....	....	4	2	5	2	....	3	4	2	33

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	1	....	1	....	1	3	....	....	1	1	1	9
Polish,	....	....	....	....	....	....	1	....	....	1	....	....	2
Hungarian,	....	....	....	1	....	....	....	....	....	....	....	....	1
Italian,	....	1	....	....	....	....	....	....	1	....	....	....	2
Slavonian,	1	2	....	....	1	....	1	2	....	....	1	....	8
Lithuanian,	....	....	....	....	....	....	....	1	....	....	....	....	1
Austrian,	....	....	....	....	....	....	....	1	....	1	....	....	2
Russian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Totals,	1	3	....	2	1	1	5	4	1	4	2	1	26

TABLE I.—Operators and mines. kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gasous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lehigh Coal and Navigation Co.															
Nesquehoning Colliery:															
Number 1,	Tunnel,	Gaseous,	Fan, Natural,	21.0	7.0	3.3	50	.1	Guibal,	Steam,	18	115,700	114,500	*	214
Number 2,	Shaft,	Gaseous,	Fan,	21.0	7.0	6.0	87	.2	Guibal,	Steam,	16	141,400	90,840	180,000	360
Number 3,	Slope,	Non-gas.,	Fan,	16.0	8.0	4.0	100	.6	Guibal,	Steam,	3	29,100	23,650	37,300	58
Number 2,	Tunnel,	Non-gas.,	Natural,	......	......	......	......	......	......	......	1	12,300	12,500	12,800	37
Number 1,	Drift,	Non-gas.,	Natural, Fan,	24.0	8.0	6.0	72	.8	Guibal,	Steam,	1	4,800	4,800	5,050	14
Bird Eye,	Drift,	Gaseous,	Natural,	......	......	......	......	......	......	......	10	66,717	24,570	*	136
Summit,	Tunnel,	Non-gas.,	Natural,	......	......	......	......	......	......	......	†	......	......	......	......
Lansford Colliery:															
Number 4,	Slope,	Gaseous,	Fan,	24.0	8.0	7.0	90	2.1	Sturtevant,	Steam,	2	98,560	103,400	103,400	215
Number 4,	Shaft,	Gaseous,	Fan,	24.0	8.0	7.0	90	2.1	Sturtevant,	Steam,	2	61,100	67,344	67,344	113
Number 5,	Shaft,	Gaseous,	Fan,	21.0	7.0	6.6	50	1.4	Guibal,	Steam,	9	65,500	68,890	68,890	150
Number 6,	Shaft,	Gaseous,	Natural, Fan,	22.0	8.0	6.0	87	1.4	Guibal,	Steam,	3	62,500	63,800	68,900	230
Coaldale Colliery:															
Number 8,	Shaft,	Gaseous,	Fan,	24.0	8.0	6.0	70	1.0	Guibal,	Steam,	2	42,200	42,500	82,500	103
Number 8,	Slope,	Gaseous,	Natural,	......	......	......	......	......	......	......	†	......	......	......	......
Number 9,	Shaft,	Gaseous,	Fan,	20.0	8.0	6.0	70	1.8	Vulcan,	Steam,	10	119,600	119,600	161,340	168

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*Outlets are holes to surface. It is impossible to take air measurements.

†No air measurements taken.

Greenwood Colliery:														
Number 10,	Shaft,	Gaseous,	Fan,	24.0	8.0	6.0	71	1.8	Guibal,	Steam,	4	52,000	47,500	61,000	242
Number 10,	Slope,			24.0	8.0	6.0	74	1.8			5	30,300	55,000	55,000	197
Number 10,	Tunnel,			12.0	4.0	4.0	76	.6			.	11,200	14,000	14,000	16
Rahn Colliery:														
Number 11, North Dip,	Shaft,	Gaseous,	Fan,	24.0	7.9	6.3	75	1.8	Guibal,	Steam,	5	86,000	83,500	130,000	136
Number 11, South Dip,	Shaft,	Gaseous,	Fan,	9.0	3.0	7.0	124	2.5	Sirocco,	Electricity,	9	61,000	53,000	80,000	174
Fosters,	Tunnel,	Gaseous,	Fan,	21.0	7.0	5.3	45	.8	Guibal,	Steam,	8	51,500	24,300	64,400	90
Tamaqua Colliery:														
South Side No. 14,	Shaft,	Gaseous,	Fan,	20.0	6.8	6.0	100	.3	Guibal,	Electricity,	8	64,800	7,825	65,650	141
North Side No. 14,	Shaft,	Gaseous,	Fan,	20.0	7.0	5.3	67	1.7	Sturtevant,	Steam,	8	14,000	9,150	21,690	216
Estate A. S. Van Wickle														
Coleraine Colliery:														
Buck Mountain,	Slope,	Gaseous,	Fan,	16 0	4.0	5.0	85	‡	Guibal,	Steam,	5	58,853	48,182	86,201	160
Coxe Brothers and Co., Inc.														
Beaver Meadow Colliery:														
Number 2,	Slope,	Non-gas.,	Fan,	20.0	6.0	5.6	90	.75	Guibal,	Steam,	1	19,560	16,480	57,360	27
Number 4,				12.0	5.0	5.6	110	.40			3	40,570	18,460	93,760	88
Number 6,				20.0	6.0	5.6	90	.75			1	19,560	16,480	57,360	26

‡Not reported.

NOTE.—There are fifteen non-gaseous mines in which the principal work done is robbing. No air measurements taken.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh Coal and Navigation Co.						
Nesquehoning,	Carbon,	E. Ludlow,	Lansford,	W. G. Whildin Inside Supt. S. V. Tench, Outside Supt.	Lansford,	C. R. R. of N. J. and L. and N. E.
Lansford,	Carbon,					
Coaldale,	Schuylkill, Carbon,					
Greenwood,	Schuylkill,					
Rahn,	Schuylkill,					
Tamaqua,	Schuylkill,					
Coaldale Washery,	Schuylkill,					
Greenwood Washery,	Schuylkill,					
Hauto Washery,	Carbon,					
Estate A. S. Van Wickle						
Coleraine,	Carbon,	John Harvey,	Hazleton,	....	....	L. V., P. and R., and C. R. R. of N. J.
Coxe Brothers and Co., Inc.						
Beaver Meadow,	Carbon,	Thomas Thomas,	Wilkes-Barre,	W. H. Davies,	Hazleton,	Lehigh Valley
Evans Colliery Co.						
Evans,	Carbon,	W. E. Smith,	Hazleton,	W. E. Smith,	Hazleton,	Lehigh Valley
Moses Neyer						
Black Rock,	Carbon,	Moses Neyer,	Summit Hill,	Elmer Neyer,	Summit Hill,	....

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured quantity powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives: Number of pounds of powder used	Explosives: Number of pounds of dynamite used	Explosives: Number of pounds of permissible explosives used	Number of horses and mules
Lehigh Coal and Navigation Co.													
Nesquehoning,	Carbon,	749,318	65,482	5,704	820,504	265	1,799	7	2	....	495,796	42,910	68
Lansford,	Carbon,	712,055	163,959	68,769	944,783	260	2,319	6	13	....	262,529	67,354	63
Coaldale,	Carbon, Schuylkill,	827,183	19,672	5,919	852,774	268	1,426	5	1	....	278,489	31,713	70
Greenwood,	Schuylkill,	405,031	55,414	13,152	473,597	255	1,003	5	3	1,800	239,449	4,500	53
Rahn,	Schuylkill,	256,169	53,206	8,094	317,469	236	854	4	1	....	137,661	5,950	40
Tamaqua,	Schuylkill,	264,041	78,208	4,119	346,368	263	760	1	2	....	160,280	5,917	14
		3,213,797	435,941	105,757	3,755,495	......	8,161	28	22	1,800	1,574,204	158,344	308
Washeries													
Coaldale,	Schuylkill,	159,475	27,224	943	187,642	276	107	......	......	....	100	....	1
Greenwood,	Schuylkill,	144,924	19,799	1,365	166,088	265	82	......	......	....	....	....	......
Hauto,	Carbon,	152,810	38,531	23,995	215,336	284	190	1	......	....	3,525	4,550	3
		457,209	85,554	26,303	569,066	......	379	1	......	....	3,625	4,550	4
Totals,	....	3,671,006	521,495	132,060	4,324,561	......	8,540	29	22	1,800	1,577,829	162,894	312
Estate A. S. Van Wickle													
Coleraine,	Carbon,	233,165	47,443	4,165	284,773	305	620	2	1	48,125	86,350	....	71

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Coxe Brothers and Co., Inc. Beaver Meadow, ...	Carbon, ...	233,960	19,211	4,540	257,711	264	425	......	2	28,575	145,166	....	35
Evans Colliery Co. Evans, ...	Carbon, ...	22,296	8,000	184	30,480	286	94	2	1	....	14,650	650	7
Moses Neyer Black Rock, ...	Carbon, ...	....	90	5,244	5,334	300	9	......	......	....	....	1,800	.....
Grand totals, ...	....	4,160,427	596,239	146,193	4,902,859	......	9,688	33	26	78,500	1,823,995	165,344	425

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Lehigh Coal and Navigation Co., ...	Carbon, ... Schuylkill, .	3	186	140	28,976	29,162	39	*	61	203	38,571	23	47,243	9,309	8	17
Estate A. S. Van Wickle, ...	Carbon, ...	......	......	18	2,150	2,150	6	......	......	36	1,340	7	7,347	2,466	1	......
Coxe Brothers and Co., Inc., ...	Carbon, ...	......	......	2	2,000	2,000	4	2	......	20	1,750	1	1,200	1,100	1	2
Evans Colliery Co., ...	Carbon, ...	......	......	2	700	700	......	......	......	6	185	4	2,600	1,600	......	......
Moses Neyer, ...	Carbon, ...	......	......	1	35	35	......	......	......	2	30	......	......	......	......	......
Totals, ...	....	3	186	169	33,861	34,047	49	2	61	267	41,876	35	58,390	14,475	10	19

*5 gasoline locomotives in use.

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh Coal and Navigation Co., ...	Carbon, ... Schuylkill, ...	12	33	68	1,528	421	258	63	19	2,398	1,209	6,009	4	17	238	303	224	47	34	1,664	2,531	8,540
Estate A. S. Van Wickle, ...	Carbon, ...	4	....	3	160	139	30	3	8	49	9	405	1	2	18	29	26	4	8	127	215	620
Coxe Brothers and Co., Inc., ...	Carbon, ...	1	4	....	131	45	14	6	1	7	22	231	...	1	13	14	34	10	4	118	194	425
Evans Colliery Co., ...	Carbon, ...	1	....	....	25	25	3	1	2	6	......	63	1	1	2	6	11	....	1	9	31	94
Moses Neyer, ...	Carbon, ...	....	....	....	2	....	3	....	....	......	......	5	...	....	....	1	....	....	....	3	4	9
Totals, ...	....	18	37	71	1,846	630	308	73	30	2,460	1,240	6,713	6	21	271	353	295	61	47	1,921	2,975	9,688

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh Coal and Navigation Company,	Schuylkill, Carbon,	25	23	19	21	24	24	20	17	22	25	22	16	258
Estate A. S. Van Wickle,	Carbon,	26	24	26	25	26	25	26	26	25	26	24	26	305
Coxe Brothers and Co., Inc.,	Carbon,	24	23	16	23	25	25	21	20	21	23	23	20	264
Evans Colliery Co.,	Carbon,	25	22	21	20	21	23	26	26	25	26	26	25	286
Moses Neyer,	Carbon,	26	25	26	24	23	25	25	26	23	27	25	25	300

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	8	William Samler,	American,	Miner,	49	W.	....	....	Evans,	Carbon,	Killed by fall of roof while starting a breast off No. 7 East Gamma gangway.
		Mike Magul,	Polish,	Miner,	29	M.	1	4	Evans,	Carbon,	Killed by fall of roof while starting a breast off No. 7 East Gamma gangway.
	20	James Sentine,	Italian,	Laborer,	22	S.	....	....	Lansford,	Carbon,	Killed by being run over by locomotive. Outside.
	22	Lucas Lantas,	Austrian,	Miner,	34	M.	1	3	Greenwood,	Schuylkill,	Killed by rush of coal under check in chute.
	24	John Harinchock,	Slavonian,	Loader,	20	S.	....	....	Nesquehoning	Carbon,	Killed by falling down balance plane in No. 1 tunnel.
Feb.	11	Steve Balosky,	Slavonian,	Miner,	39	M.	1	5	Rahn,	Schuylkill,	Killed by rush of coal in manway.
	15	John Androsky,	Slavonian,	Laborer,	21	S.	....	....	Lansford,	Carbon,	Killed by cars. Outside.
	22	Bernard McGorry,	American,	Laborer,	18	S.	....	....	Nesquehoning,	Carbon,	Killed by cars in No. 1 tunnel.
	26	Joseph B. Ritsko,	Hungarian,	Laborer,	36	M.	1	2	Hauto Washery,	Carbon,	Killed by cars on dirt bank. Outside.
		Paul Bennyak,	Slavonian,	Laborer,	19	S.	1	2	Coaldale,	Schuylkill,	Killed by suffocation at battery by rush of coal.
May	3	Paul Mustachio,	Italian,	Mucker boss,	27	M.	1	2	Nesquehoning,	Carbon,	Killed by fall of roof at face of No. 1 tunnel.
	6	Peter McGlorick,	American,	Doorboy,	18	S.	....	....	Rahn,	Schuylkill,	Fatally injured by cars while opening door for motor.
	15	Mike Demshock,	Slavonian,	Laborer,	55	M.	1	2	Coleraine	Carbon,	Killed by cars. Outside.
	29	George Goosely,	Slavonian,	Laborer,	54	M.	1	....	Nesquehoning,	Carbon,	Killed by cars. Outside.
June	7	Joseph Maletsky,	Austrian,	Laborer,	23	S.	....	....	Rahn,	Schuylkill,	Killed between car and gangway leg.
	9	Martin Serena,	Slavonian,	Miner,	31	M.	2	3	Greenwood,	Schuylkill,	Killed by fall of coal at face of manway.
July	1	Leonard Houser,	American,	Miner,	25	M.	1	....	Nesquehoning,	Carbon,	Killed by suffocation by rush of coal and clay at battery.
	14	Joseph Nawhide,	Slavonian,	Miner,	26	M.	1	1	Lansford,	Carbon,	Killed by contact with electric wire while passing between cars on gangway.
	15	John Koshuta,	Greek,	Miner,	52	M.	1	2	Lansford,	Carbon,	Killed by fall of rock while repairing battery.
	27	Walter Wylde,	American,	Machinist,	44	M.	1	....	Tamaqua,	Schuylkill,	Killed by falling down shaft.
	29	Fritz Lesko,	Polish,	Miner,	45	M.	1	....	Lansford,	Carbon,	Fatally injured by explosion of gas on gangway.

Aug.	6	John Kramer, ...	Slavonian, ..	Laborer, ...	22	S.	....	....	Lansford, ...	Carbon, ...	Killed by falling down shaft.
	14	Mike Fritz, ...	Slavonian, ..	Miner, ...	39	M.	1	4	Greenwood, ...	Schuylkill, .	Killed by gangway collar falling on him while removing it from car.
Oct.	15	Victor Koslousky, ...	Russian, ...	Miner, ...	23	M.	1	....	Coaldale, ...	Schuylkill, .	Killed between sheet-iron gate and leg on trial slope.
	21	Henry Zeplin, ...	American, ..	Miner, ...	30	M.	1	....	Greenwood, ...	Schuylkill, .	Fatally burned by explosion of gas at face of breast.
	31	Peter Soates, ...	Slavonian, ..	Battery man,	23	M.	1	3	Coaldale, ...	Schuylkill, .	Killed by suffocation when he fell into box chute while starting battery.
Nov.	3	Mike Melnick, ...	Slavonian, ..	Laborer, ...	48	M.	1	3	Coleraine, ...	Carbon, ...	Fatally injured by fall of coal at pillar.
	12	Wilson Wagner, ...	American, ..	Miner, ...	43	M.	1	3	Nesquehoning, ...	Carbon, ...	Fatally burned by explosion of gas near face of breast.
	12	Thomas Dolan, ...	American, ..	Miner, ...	37	M.	1	2	Nesquehoning, ...	Carbon, ...	Killed by explosion of gas at face of breast.
	29	Thomas Hargus, ...	Slavonian, ..	Laborer, ...	38	M.	1	3	Greenwood, ...	Schuylkill, .	Killed by being run over by loaded rock car. Outside.
Dec.	3	Thomas Nash, ...	Slavonian, ..	Laborer, ...	37	M.	1	3	Rahn, ...	Schuylkill, .	Killed by cogwheel falling on him. Outside.
	16	Frank Harletcheck, ..	Horwat, ...	Miner, ...	26	M.	1	1	Coaldale, ...	Schuylkill, .	Killed by falling down shaft.
	16	Joseph Andronovitch,.	Polish,......	Miner, ...	28	S.	....	....	Coaldale, ...	Schuylkill, .	Killed by falling down shaft.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	21	Mike Soncheck, ...	Slavonian, ..	Miner, ...	30	M.	Nesquehoning, ...	Carbon, ...	Hands and face burned by explosion of gas at face of breast.
Feb.	5	William Stefani, ...	Italian, ...	Miner, ...	36	M.	Lansford, ...	Carbon, ...	Back injured by fall of slate while timbering monkey.
	7	John Wargo, ...	Slavonian, ..	Laborer, ...	16	S.	Tamaqua, ...	Schuylkill, .	Leg lacerated while coupling cars. Outside.
	11	Patrick Malloy, ...	American, ..	Engineer, ...	24	S.	Lansford, ...	Carbon, ...	Head injured by falling 21 feet to floor of boiler house. Outside.
	27	Ambrose Loensky, ...	Slavonian, ..	Miner, ...	23	M.	Coaldale, ...	Schuylkill, .	Leg and ribs fractured by fall of roof near face of gangway.
April	4	Thomas O. Kinka, ...	Hungarian, .	Laborer, ...	46	M.	Beaver Meadow, ...	Carbon, ...	Leg broken by being caught between derailed car and rib on stripping. Outside.
	5	Howard Schmeer, ...	American, ..	Driver, ...	20	S.	Coleraine, ...	Carbon, ...	Chest bruised and shoulder broken by falling under cars on gangway.
May	27	Sam Wislosky, ...	Slavonian, ..	Miner, ...	34	S.	Greenwood, ...	Schuylkill, .	Skull fractured by a falling collar while timbering gangway.
June	11	Daniel Davis, ...	American, ..	Assistant foreman,	28	M.	Lansford.	Carbon, ...	Three ribs broken by fall of roof in gangway.
July	8	Hugh Coll, ...	American, ..	Loader, ...	20	S.	Nesquehoning, ...	Carbon, ...	Arm and face lacerated by premature blast on stripping. Outside.
	24	John Darkas, ...	Slavonian, ..	Pole man, ...	20	M.	Lansford, ...	Carbon, ...	Collar bone broken between cars while making up his trip.
	28	Lutric Gurko, ...	Polish, ...	Miner, ...	25	S.	Lansford, ...	Carbon, ...	Eye lacerated by being struck by piece of iron that fell down shaft.
	29	Fred Graff, ...	American, ..	Motorman, ...	19	S.	Lansford, ...	Carbon, ...	Hands and face burned by explosion of gas on gangway.
	29	John O. Donnell, ...	American, ..	Pole man, ...	22	S.	Lansford, ...	Carbon, ...	Hands and face burned by explosion of gas on gangway.
Aug.	4	Usten Barton, ...	Slavonian, ..	Laborer, ...	26	M.	Lansford, ...	Carbon, ...	Hands and face burned by explosion of gas at face of chute.
	14	Paul Polansky, ...	Slavonian, ..	Miner, ...	22	M.	Greenwood, ...	Schuylkill, .	Head and leg injured by a falling collar in West 40 foot gangway.
	21	Peter Davidyock, ...	Austrian, ..	Laborer, ...	35	M.	Lansford, ...	Carbon, ...	Leg broken by being struck by chain block.

Aug.	26	John Spacousky,	Lithuanian,	Miner,	30	M.	Tamaqua,	Schuylkill,	Skull fractured by loose rock while starting battery.
Sept.	17	Joseph Disandi,	Italian,	Laborer,	42	M.	Lansford,	Carbon,	Bladder ruptured by falling astride a track rail. Outside.
Oct.	3	Angelo Ferrari,	Austrian,	Miner,	34	M.	Beaver Meadow,	Carbon,	Leg fractured between prop and piece of coal at face of breast.
	14	Mike Stetina,	Polish,	Laborer,	20	S.	Lansford,	Carbon,	Hands and face burned by explosion of gas near face of gangway.
	14	Mike Yedloskie,	Russian,	Laborer,	25	S.	Lansford,	Carbon,	Hands and face burned by an explosion of gas near face of gangway.
	21	Charles Wallour,	American,	Miner,	30	M.	Greenwood,	Schuylkill,	Hands and face burned by explosion of gas at face of breast.
Nov.	3	George Aiken,	American,	Fire boss,	61	M.	Lansford,	Carbon,	Feet crushed by car when opening door.
	11	Valantine Maholeck,	Slavonian,	Miner,	27	M.	Evans,	Carbon,	Hips bruised by fall of clod at face of breast.
Dec.	19	W. F. Kloss,	American,	Foreman,	41	M.	Rahn,	Schuylkill,	Skull fractured by being struck on head by gate lever at chute under breaker. Outside.

CONDITION OF COLLIERIES

LEHIGH COAL AND NAVIGATION COMPANY

Nesquehoning Colliery.—Ventilation and drainage generally good; roads fair and general condition as to safety good.

Lansford Colliery.—Ventilation, with few exceptions, good; drainage, roads and general condition as to safety good.

Coaldale Colliery.—Ventilation generally good, drainage, roads and condition as to safety good.

Greenwood Colliery.—Ventilation, with few exceptions, good; drainage and roads fair; general condition as to safety good.

Rahn Colliery.—Ventilation generally good; drainage fair; roads and general condition as to safety good.

Tamaqua Colliery.—Ventilation, drainage and roads generally good; condition as to safety good.

ESTATE A. S. VAN WICKLE

Coleraine Colliery.—Ventilation, drainage and roads in generally good condition.

COXE BROTHERS AND COMPANY, INCORPORATED

Beaver Meadow Colliery.—Ventilation and drainage good; roads and general condition as to safety good.

EVANS COLLIERY COMPANY

Evans Colliery.—Ventilation and drainage good, roads fair; general condition as to safety good.

MOSES NEYER

Black Rock Colliery.—Ventilation and drainage good; roads fair; general condition as to safety good.

IMPROVEMENTS

LEHIGH COAL AND NAVIGATION COMPANY

Nesquehoning Colliery.—Extended east tunnel to south basin. Made traveling-way from No. 2 shaft level to No. 1 tunnel in the Seven Foot vein. Tunnel and air tunnel driven from East Mammoth opposite No. 6 tunnel north to Primrose vein. Drainage hole driven from No. 2 shaft to Lausanne tunnel. Built 50,000-gallons corrugated steel water tank and heater shed for mine cars.

Lansford Colliery.—No. 4 tunnel driven north from East Skidmore, fourth level to anticlinal of Mammoth. Erected feeder for 15-ton motor. Built fireproof stable in fourth vein, fourth level. Installed a 30 by 60 inch hoisting engine and head frame in fireproof engine house, a 42 by 60 inch hoisting engine and steel head frame in fireproof engine house, and 28 by 48 inch hoisting engine at tender shaft. Installed 1,000 electric mine lamps. Built timber wharf with mechanical device for unloading and preparing mine timber.

No. 5 Shaft. Built a concrete house for safety and electrical mine lamps, and a concrete wash house. Built a fireproof inside motor house. Installed a fan.

No. 6 Shaft. Erected head frames. Built elevator and pocket for condemned coal. Built railroad to replace dirt plane. Erected two oil houses and tanks and locomotive house. Hoisting engine house fireproofed. Water hoisting engine house made fireproof. Erected heater shed for mine cars, and two 75,000 gallon water tanks.

Coaldale Colliery.—Tunnel driven north from Orchard to Primrose, No. 8 water level. Tunnel driven south from Little Primrose to Big Primrose, third level, No. 9. Installed 20 inch fan in brick and concrete house at No. 9 shaft.

Coaldale No. 8 Shaft.—Tunnel driven from West Little Red Ash to Primrose, second level, No. 9. Extended Springdale tunnel to Mammoth vein. Built addition to breaker to accommodate 12 jigs. Built additional slush pumping plant. Built fireproof wash house at Springdale tunnel. Built ash conveyor at No. 8 boiler house. Water engine house made fireproof. 12 inch fan and engine installed in concrete house.

Greenwood Colliery.—Installed electric lighting and wiring at breaker.

Hauto Washery.—An electrically driven washery was put into operation November 24.

Rahn Colliery.—Extended No. 6 tunnel to Four Foot vein. Installed electric pump, piping, et cetera, for slush. Installed 6-foot electric Sirocco fan for south dip workings. Built 8-inch steam line from No. 10 to No. 11. Installed class A air compressor and 5 gasoline locomotives.

Tamaqua Colliery.—Installed an electrically driven fan in brick building at Sharp mountain. Built hollow tile wash house.

The company has given considerable attention to the question of safety and prevention of accidents. It has a fully equipped mine rescue car, First Aid Corps, Safety and Fire Inspector, and a Safety Committee to pass on the Inspector's reports.

ESTATE A. S. VAN WICKLE

Coleraine Colliery.—Slope No. 1. Retimbered pump-house with steel timbers, making it secure. Extended telephone line to pump-house from engine-house.

Wheel Barrow Slope, Buck Mountain.—Built a cement and iron extension to the mule stable to accommodate four mules. Walled up 35 finished breasts with rock and cement, bringing the full strength of the air current to the working face.

Slope No. 2, New Wharton.—Finished tunnel to the Wharton vein, connecting the New Wharton slope with No. 2 New Mammoth slope; total length of tunnel 126 feet. Made a rock pumphouse at the counter gangway, 16 feet long, 6 feet wide, 9 feet high; also a pump-house 35 feet long, 17 feet wide, 10 feet high. Installed in the above pumphouses one Jeanesville duplex pump 28 by 12 by 36 inches, one Jeanesville duplex pump 18 by 8 by 18 inches, and one Blake pump 24 by 12 by 24 inches. Also installed 765 feet of 12 inch cast iron column pipe; 765 feet of 8 inch cast iron column pipe; 900 feet of 6 inch wrought iron steam pipe.

Slope No. 7, Buck Mountain.—Built a cement emergency dam, 14 by 11 by 2 feet, in the east fourth level gangway, to hold all the water from the Buck Mountain and Gamma veins. Dam is reinforced with T rails to withstand a head of water 70 feet vertical.

Installed one Erie boiler, 50 H. P., with all necessary equipment. Outside: Installed one cedar wood 25,000-gallon water tank at No. 1, boiler house.

COXE BROTHERS AND COMPANY, INCORPORATED

Beaver Meadow Colliery.—No. 6 rock slope was started July 16, 1912, and completed January 15, 1913. First coal hoisted August 18, 1913. The slope was driven through the rock from No. 6 West Wharton, south dip, to the surface on pitch of 24 degrees. The slope is 8 by 14 by 145 feet long. It is the intention to continue the slope, at some future time, down to the Gamma and Buck Mountain veins. The mouth of the slope is concreted at the surface, the roof supports being 12 inch steel beams resting on concrete side walls.

Outside: Three sets of shaking screens were installed, improving the screening service.

Beaver Creek channel was changed to permit the extension of the Greenfield stripping. An extension to the East Greenfield stripping has been started by the removing of cover from the basin at the west end. The old steam shovel in the Temperance stripping has been replaced by a new 75-ton Marion shovel. A proving hole was driven from 12 West Buck Mountain, underneath No. 5 slope, in the Wharton, and 2 bore holes drilled from this proving hole tapped and drained the water from No. 5 slope.

No. 12 tunnel and No. 4 slope has been extended 135 feet to the bottom split of the Buck Mountain. The air shaft at No. 5 slope has been relined with concrete, it being the intention to take electric wires down this shaft for operating an electrical hoist for No. 5 slope. A new First Aid Hospital was erected.

EVANS COLLIERY COMPANY

Evans Colliery.—August 25, No. 7 Gamma slope was abandoned. The old No. 1 Gamma slope was reopened and the pillars are now being robbed.

EIGHTEENTH DISTRICT

SCHUYLKILL COUNTY

Pottsville, Pa., February 25, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Eighteenth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

JOHN CURRAN, Inspector.

SUMMARY OF STATISTICS

Number of collieries,	15
Number of mines,	48
Number of mines in operation,	45
Number of tons of coal shipped to market,	2,629,803
Number of tons used at mines for steam and heat,	307,835
Number of tons sold to local trade and used by employes,	31,195
Number of tons produced,	2,968,833
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	4,590
Number of persons employed outside,	1,921
Number of fatal accidents inside of mines,	26
Number of fatal accidents outside,	5
Number of non-fatal accidents inside of mines,	68
Number of non-fatal accidents outside,	10
Number of tons of coal produced per fatal accident inside,	114,186
Number of tons produced per fatal accident outside,	593,767
Number of tons produced per fatal accident inside and outside,	95,769
Number of persons employed per fatal accident inside,	177
Number of persons employed per fatal accident outside,	384
Number of persons employed per fatal accident inside and outside,	210
Number of persons employed per non-fatal accident inside,	67
Number of persons employed per non-fatal accident outside,	192
Number of persons employed per non-fatal accident inside and outside,	84
Number of wives made widows,	18
Number of children made orphans,	39
Number of steam locomotives used inside of mines,	4
Number of steam locomotives used outside,	34
Number of compressed air locomotives used inside,	9
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	9
Number of electric motors used outside,	....
Number of fans in use,	36
Number of furnaces in use,	....
Number of gaseous mines in operation,	24
Number of non-gaseous mines in operation,	21
Number of new mines opened,	3
Number of old mines abandoned,	3

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Lehigh and Wilkes-Barre Coal Company,	801,772
Philadelphia and Reading Coal and Iron Company,	720,549
Maryd Coal Company,	314,202
Dodson Coal Company,	289,854
Coxe Brothers and Company, Incorporated,	267,592
Lehigh Valley Coal Company,	257,133
Mill Creek Coal Company,	109,344
East Lehigh Coal Company,	44,667
Port Carbon Coal Company,	40,972
Alliance Coal Company,	32,170
Eastern Pennsylvania Coal Company,	31,716
Gorman and Campion,	31,602
Schuylkill and Lehigh Coal Company,	27,260
Total,	2,968,833

Production by Counties

Schuylkill,	2,968,833

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh and Wilkes-Barre Coal Co.,	5	2	7	22	4	26	160,354	36,444	1,192	408	1,600	238	204	54	102
Philadelphia and Reading Coal and Iron Co.,	6	2	8	21	1	22	120,092	34,312	1,190	507	1,697	198	254	57	507
Maryd Coal Co.,	......	......	......	3	2	5	....	104,734	360	148	508	....	....	120	74
Dodson Coal Co.,	......	......	......	......	1	1	....	....	409	196	605	....	....	....	196
Coxe Brothers and Co., Inc.,	3	......	3	3	1	4	89,197	89,197	354	111	465	118	....	118	111
Lehigh Valley Coal Co.,	4	......	4	6	......	6	64,283	42,856	452	157	609	113	....	75	....
Mill Creek Coal Co.,	......	......	......	3	1	4	....	36,448	118	122	240	....	....	39	122
East Lehigh Coal Co.,	3	......	3	......	......	......	14,889	....	76	60	136	25	....	....	....
Port Carbon Coal Co.,	1	......	1	......	......	......	40,972	....	66	25	91	66	....	....	....
Alliance Coal Co.,	4	1	5	7	......	7	8,043	4,596	218	92	310	55	92	31	....
Eastern Pennsylvania Coal Co.,	......	......	......	3	......	3	....	10,572	69	28	97	....	....	23	....
Miscellaneous Companies,	......	......	......	......	......	......	....	....	86	67	153	....	....	....	....
Totals and averages for district,	26	5	31	68	10	78	114,186	43,659	4,590	1,921	6,511	177	384	67	192

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	4	....	....	....	1	....	1	....	....	....	....	....	6	23.08
Falls of slate, ...	....	....	...	1	....	....	....	....	...	....	....	1	2	7.69
Falls of roof, ...	....	....	....	....	....	1	....	....	1	....	....	....	2	7.69
Mine cars, ...	....	....	....	....	....	1	1	....	2	....	....	....	4	15.38
Blasts, premature and otherwise, ...	...	1	1	....	....	....	....	....	....	1	1	....	4	15.38
Falling into shafts, ..	....	....	....	....	....	2	....	....	....	....	....	....	2	7.69
Falling into slopes, etc., ...	1	....	....	....	....	....	....	....	....	....	....	1	2	7.69
Crushed at batteries,..	....	....	....	....	....	1	....	....	....	....	....	....	1	3.85
Concussion from fall,..	1	....	....	....	....	....	....	....	....	....	....	....	1	3.85
Struck by timber, ...	....	....	1	....	....	....	....	....	....	....	....	....	1	3.85
Rush of water, ...	....	....	....	....	....	....	....	1	....	....	....	....	1	3.85
Totals, ...	6	1	2	1	1	5	2	1	3	1	1	2	26	100.00
Causes of Accidents Outside														
Cars, ...	...	....	....	....	....	....	....	1	....	....	....	....	1	20.00
Machinery, ...	1	....	1	....	....	....	....	....	....	....	....	....	2	40.00
Rush of culm, ...	2	....	....	....	....	....	....	....	....	....	....	....	2	40.00
Totals, ...	3	....	1	....	....	....	....	1	....	....	....	....	5	100.00
Grand totals inside and outside, ...	9	1	3	1	1	5	2	2	3	1	1	2	31	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	3	3	1	....	....	....	....	1	....	2	1	....	11	16.18
Falls of slate, ...	1	....	....	....	1	....	1	....	1	....	....	2	6	8.83
Falls of roof, ...	....	1	....	....	....	2	....	....	....	....	....	....	3	4.41
Mine cars, ...	1	1	1	....	....	....	1	2	1	....	2	3	12	17.65
Explosions of gas, ..	....	....	....	4	3	....	....	....	....	1	3	3	14	20.59
Explosions of powder and dynamite, ...	....	1	....	1	....	....	....	....	....	....	....	....	2	2.94
Blasts, premature and otherwise, ...	....	1	....	....	....	....	....	1	2	....	2	....	6	8.82
Falling into slopes, etc., ...	1	....	....	....	....	....	....	....	....	....	....	....	1	1.47
Mules, ...	1	1	....	....	....	....	....	1	....	....	....	....	3	4.41
Struck by timber, ...	1	....	2	....	....	....	....	....	....	....	....	1	4	5.88
Struck by rock, ...	....	....	....	....	....	1	....	....	....	1	....	....	2	2.94
Explosion of carbide,..	....	....	....	....	1	....	....	....	....	....	....	....	1	1.47
By falling, ...	....	....	....	....	....	....	.. .	....	1	....	....	....	1	1.47
Burned by lamp, ...	....	....	....	....	....	....	....	....	....	...	1	....	1	1.47
Machinery, ...	...	....	....	....	....	....	....	....	....	....	1	....	1	1.47
Totals, ...	8	8	4	5	5	3	2	5	5	4	10	9	68	100.00
Causes of Accidents Outside														
Cars, ...	....	1	1	....	1	1	....	....	....	....	1	....	5	50.00
Machinery, ...	....	....	1	1	....	....	....	....	....	....	....	....	2	20.00
Struck by pick, ...	....	....	....	....	....	....	....	....	....	....	1	....	1	10.00
By falling, ...	....	....	....	....	....	....	1	....	....	....	1	....	2	20.00
Totals, ...	....	1	2	1	1	1	1	....	....	....	3	....	10	100.00
Grand totals inside and outside, ...	8	9	6	6	6	4	3	5	5	4	13	9	78	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Mine foremen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Miners,	5	1	1	1	1	4	2	1	1	....	1	1	19
Miners' laborers,	....	....	1	...	....	1	....	....	....	1	....	....	3
Drivers and runners,	....	....	....	....	....	....	....	....	1	....	....	....	1
Company men,	....	....	....	....	....	....	....	....	1	....	....	....	1
Loaders,	1	....	....	....	....	....	....	....	....	....	....	....	1
Totals,	6	1	2	1	1	5	2	1	3	1	1	2	26
Outside													
Engineers and firemen,	1	....	....	....	....	....	....	....	....	....	....	....	1
Jack men,	....	....	1	....	....	....	....	....	....	....	....	....	1
Laborers,	2	....	....	....	....	....	....	1	....	....	....	....	3
Totals,	3	....	1	....	....	....	....	1	....	....	....	....	5
Grand totals inside and outside,	9	1	3	1	1	5	2	2	3	1	1	2	31

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Fire bosses and assistants,	. .	1	....	....	....	....	....	....	....	....	....	....	1
Miners,	4	4	1	3	1	....	1	2	3	3	4	4	30
Miners' laborers,	2	2	2	2	3	2	....	1	1	1	1	1	18
Drivers and runners,	1	....	....	....	1	....	1	1	1	....	1	2	8
Company men,	1	....	1	....	....	....	....	....	....	....	1	2	5
Patchers,	....	1	....	....	....	....	....	1	....	....	1	....	3
Shaft tenders,	....	....	....	....	....	1	....	....	....	....	....	....	1
Repairmen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Pump runners,	....	....	....	....	....	....	....	....	....	....	1	....	1
Totals,	8	8	4	5	5	3	2	5	5	4	10	9	68
Outside													
Slate pickers (boys),	....	....	....	....	....	....	....	....	....	....	1	....	1
Patchers,	....	....	1	....	....	....	....	....	....	....	....	....	1
Jig runners,	....	... .	1	....	....	....	....	....	....	....	....	....	1
Headmen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Laborers,	....	1	....	1	1	1	1	....	....	....	1	....	6
Totals,	....	1	2	1	1	1	1	....	....	....	3	....	10
Grand totals inside and outside,	8	9	6	6	6	4	3	5	5	4	13	9	78

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	....	....	1	....	....	....	....	....	....	....	....	2
Welsh,	....	....	....	....	....	....	....	....	....	....	....	1	1
Irish,	1	....	....	....	....	....	....	....	....	....	....	....	1
Polish,	2	1	1	....	....	....	....	....	....	1	....	....	5
Hungarian,	....	....	....	....	....	1	....	....	....	....	....	....	1
Slavonian,	....	....	....	....	....	1	1	1	....	....	1	....	4
Lithuanian,	4	....	2	....	....	3	1	1	2	....	....	1	14
Russian,	1	....	....	....	1	....	....	....	....	....	....	....	2
Tyrolean,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	9	1	3	1	1	5	2	2	3	1	1	2	31

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	1	....	2	2	....	2	....	....	3	1	11
English,	....	1	....	....	....	....	....	....	....	....	....	....	1
German,	....	....	....	....	....	....	1	....	....	....	....	....	1
Polish,	4	2	3	2	3	....	....	2	2	1	3	4	26
Hungarian,	....	....	1	....	....	....	....	....	....	....	....	....	1
Italian,	....	....	....	2	....	1	1	....	....	....	1	1	6
Slavonian,	....	....	....	....	....	....	....	....	1	1	1	1	4
Lithuanian,	2	2	....	1	....	....	....	....	2	2	3	1	13
Russian,	2	4	1	1	1	1	....	1	....	....	2	1	14
Greek,	....	....	....	....	....	....	1	....	....	....	....	....	1
Totals,	8	9	6	6	6	4	3	5	5	4	13	9	78

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Lehigh and Wilkes-Barre Coal Co.															
Audenried No. 4 Colliery:															
Audenried No. 4, ...	Slope, ...	Gaseous, ..	Fan, ...	16	4.2	3.8	95	.8	Guibal, ...	Steam, ...	5	105,000	100,000	110,000	333
Audenried No. 11, ...	Slope, ...	Gaseous, ..													
Audenried No. 16, ...	Slope, ...	Gaseous, ..	Fan, ...	12	4	3.6	90	.7			2	20,000	15,000	23,000	100
Audenried No. 21, ...	Slope, ...	Gaseous, ..													
Audenried No. 23, ...	Slope, ...	Gaseous, ..	Fan, ...	15	4.6	5	45	.4			2	50,000	47,000	52,000	80
Honey Brook No. 5 Colliery:											4	50,000	20,000	51,570	91
Honey Brook No. 15, ...	Slope, ...	Gaseous, ..	Fan, ...	15	4.4	4.4	75	.8	Guibal, ...	Steam, ...	2	12,000	9,000	13,000	20
Honey Brook No. 22, ...	Slope, ...	Non-gas., .	Fan, ...	8	3.6	3.6	65	.5			3	28,000	26,000	29,000	60
Honey Brook No. 20, ...	Slope, ...	Non-gas., .	Fan, ...	8	2.10	2.3	65	.8			4	53,000	22,000	56,000	40
Green Mountain, ...	Slope, ...	Non-gas., .	Fan, ...	15	4.2	4.6	65	.7			..	....	....	....	40
Gamma, ...	Slope, ...	Non-gas., .									3	30,000	28,000	31,000	109
Water Level Tunnel, ...	Drift, ...	Non-gas., .	Fan, ...	12	4	3.6	60	.5			..	....	....	....	....
Wharton, ...	Slope, ...	Non-gas., .													
Philadelphia and Reading Coal and Iron Co.															
Silver Creek Colliery:															
Silver Creek, ...	Shaft, ...	Gaseous, ..	2 Fans, .	21	6	7	80	1	Guibal, ...	Steam, ...	9	200,000	195,000	200,500	482
				21	6.2	7	70	1.2							
Silver Creek No. 4, ...	Drift, ...	Non-gas., .	Fan, ...	12	4	3.6	58	.3	Guibal, ...	Electricity, .	8	72,000	70,000	73,000	115
Silver Creek No. 1, ...	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	....	....	....	....	7
Silver Creek No. 2, ...	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	....	....	....	....	23

Silver Creek No. 3,	Drift,	Non-gas.,	Natural,	......	......	......	......	......	......	......	....	......	......	......	5
Silver Creek No. 9,	Drift	Non-gas.,	Natural,	......	......	......	......	......	......	......	....	......	......	......	19
Silver Creek No. 10,	Drift,	Non-gas.,	Natural,	......	......	......	......	......	......	......	....	......	......	......	4
Silver Creek No. 11,	Drift,	Non-gas.,	Natural,	......	......	......	......	......	......	......	....	......	......	......	9
Silver Creek No. 12,	Drift,	Non-gas.,	Natural,	......	......	......	......	......	......	......	....	......	......	......	7
Silver Creek No. 13,	Drift,	Non-gas.,	Natural,	......	......	......	......	......	......	......	....	......	......	......	6
Eagle Hill Colliery:															
Eagle Hill,	Shaft,	Gaseous,	Fan,	18	6.1	6	70	1.5	Guibal,	Steam,	11	61,450	57,075	63,975	136
Eagle Hill,	Slope,	Gaseous,	Fan,	21	6	6.1	68	1			2	17,000	15,900	18,000	23
Eagle Hill No. 4,	Drift,	Gaseous,	Fan,	8	2.1	2.3	80	.8			6	19,200	16,100	19,200	46
Eagle Hill No. 7,	Drift,	Non gas.,	Fan,	8	2.1	2.3	80	.6			1	18,500	15,000	18,800	22
Eagle Hill No. 1,	Drift,	Gaseous,	Fan,	8	2.1	2.3	80	.6			1	8,500	8,000	9,000	10
Maryd Coal Co.															
Maryd Colliery:															
Maryd,	Shaft,	Gaseous,	4 Fans,	16	4	5	85	1.75	Guibal,	Steam,	1	45,000	42,000	47,000	60
				18	6	5	85	1.75	Guibal,		3	42,000	40,000	44,000	50
				20	6	6	85	2.00	Guibal,		2	80,000	75,000	82,000	160
				16	4.2	4.9	80	1.75	Guibal,		1	45,000	42,000	46,000	80
Maryd No. 1,	Drift,	Gaseous,	Fan,	10	3.6	2.6	70	.5	Sturtevant,		1	10,000	8,000	10,000	10
Dodson Coal Co.															
Morea Colliery:															
Morea,	Slope,	Gaseous,	Fan,	18	6.10	6	80	1	Guibal,	Steam,	16	43,000	41,000	*136,500	409
Morea,	Shaft,	Gaseous,	2 Fans,	18	6.10	6	80	.9							
				18	6.10	6	80	.5							
Coxe Brothers and Co., Inc.															
Oneida Colliery:															
Oneida No. 1,	Shaft,	Gaseous,	Fan,	12.6	5.3	5.10	150	.7	Pelzer,	Steam,	8	69,000	55,000	72,000	135
Oneida No. 1,	Slope,	Gaseous,													
Oneida No. 3,	Shaft,	Gaseous,	Fan,	20	6	6.6	65	.42	Guibal,	Steam,	4	75,800	48,200	61,900	71
Oneida No. 4,	Slope,	Gaseous,	Fan,	20	6	5.9	85	.5	Guibal,	Steam,	5	42,000	32,000	43,800	60
Lehigh Valley Coal Co.															
Buck Mountain Colliery:															
Buck Mountain,	Slope,	Gaseous,	Fan,	20	6.8	6	70	1	Guibal,	Steam,	10	116,000	77,000	116,000	243
Vulcan,	Slope,	Gaseous,	Fan,	25	8	6.3	65	1.6	Guibal,	Steam,	13	97,000	45,000	97,000	258
Mill Creek Coal Co.															
Middle Lehigh Colliery:															
Middle Lehigh No. 3,	Slope,	Gaseous,	Fan,	16	4.5	4.1	80	.4	Guibal,	Steam,	6	66,600	43,260	75,925	81
Middle Lehigh No. 11,	Slope,	Non-gas.,	Natural,	......	......	......	......	......	......	......	....	**	......	......	31
Middle Lehigh No. 6,	Slope,	Non-gas.,	Natural,	......	......	......	......	......	......	......	....	**	......	......	6
East Lehigh Coal Co.															
East Lehigh Colliery:															
East Lehigh,	Slope,	Gaseous,	2 Fans,	14	3.3	3	100	....	Guibal,	Steam,	2	20,000	19,000	22,000	85
				10	3.3	3	98								
Port Carbon Coal Co.															
Lucy R. Colliery:															
Lucy R.,	Drift,	Non-gas.,	Fan,	8	2.4	3	80	1	Guibal,	Electricity,	3	15,000	14,000	15,000	66

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*Several openings through strippings.

**Impossible to determine accurately, owing to intake through caves.

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Alliance Coal Co.															
Alliance Colliery:															
Alliance No. 1,†	Shaft,.....	Gaseous, ..	Fan, ...	22	6	5.10	68	1.1	Guibal, ...	Steam, ...	6	58,600	51,900	73,500	310
Alliance No. 2,†	Shaft,.....	Gaseous, ..	Fan, ...	10	5	5	70	.7	Sturtevant, ..	Steam,......	....	17,500	16,500	18,900	....
Eastern Pennsylvania Coal Co.															
Silver Hill Colliery:															
Silver Hill, ...	Drift, ...	Gaseous, ..	Fan, ...	12	3.8	3.5	90	1.5	Brazilian, ...	Steam,......	2	47,000	43,000	52,000	47
Rock Town, ...	Drift, ...	Non-gas., .	Fan.	8	2.8	2.5	85	1	Guibal, ...	Electricity, .	2	17,500	16,000	17,500	12
Gorman and Campion															
Bell Colliery:															
Bell, ...	Slope, ...	Non-gas., .	Fan, ...	8	2.8	2.5	100	1	Buffalo, ...	Steam,......	....	16,500	15,800	17,000	57
Schuylkill and Lehigh Coal Co.															
Brockton Colliery:															
Brockton,‡	Slope, ...	Non-gas., .	Fan, ...	6	2.4	2	90	1.5	Guibal, ...	Steam,......	1	10,000	8,700	10,500	27

†Suspended indefinitely.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh and Wilkes-Barre Coal Co.						
Audenried No. 4, ...	Schuylkill, ...	C. F. Huber, Vice **President.**	**Wilkes-Barre,**	Walter Fahringer, ...	Audenried, ...	C. R R. of N. J.
Honey Brook No. 5, ...						
Philadelphia and Reading Coal and Iron Co.						
Silver Creek, ...	Schuylkill, ...	W. J. Richards, Vice President	**Pottsville,**	Reese Tasker, ... Mining Supt. George B. Hadesty, District Supt. David Jones, ... Inside Supt. William Tiley, ... Outside Supt.	Pottsville, ...	P. and R.
Eagle Hill, ...						
Maryd Coal Co.						
Maryd, ...	Schuylkill, ...	T. E. Snyder, ...	**Hazleton,**	Arthur Kennedy, ...	Maryd, ...	C. R. R. of N. J.
Dodson Coal Co.						
Morea, ...	Schuylkill, ...	J. J. Turnbach, ...	Morea Colliery, ...	William A. McGinley,	Morea Colliery, ...	Pennsylvania and Lehigh Valley
Coxe Brothers and Co., Inc.						
Oneida, ...	Schuylkill, ...	Thomas Thomas, ...	Wilkes-Barre, ...	William H. Davies,..	Hazleton, ...	Lehigh Valley
Lehigh Valley Coal Co.						
Buck Mountain, ...	Schuylkill, ...	Thomas Thomas, ...	Wilkes-Barre, ...	Thomas R. Jones, ...	Mahanoy City, ...	Lehigh Valley
Mill Creek Coal Co.						
Middle Lehigh, ...	Schuylkill, ...	T. D. Jones, ...	New Boston, ...	J. E. Jones, ...	New Boston, ...	P. and R. and Lehigh Valley
East Lehigh Coal Co.						
East Lehigh, ...	Schuylkill, ...	E. M. B. Shepp, ...	Tamaqua, ...	E. M. B. Shepp, ...	Tamaqua, ...	Lehigh and New England
Port Carbon Coal Co.						
Lucy R..	Schuylkill, ...	Daniel J. Slattery, ..	Port Carbon, ...	**Daniel J. Slattery,** ..	Port Carbon, ...	P. and R.
Alliance Coal Co.						
Alliance, ...	Schuylkill, ...	Edwin Ludlow, ...	**Lansford,**	Morgan D. Morgan,..	Silver Creek, ...	P. and R.

TABLE 1.—Continued

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Eastern Pennsylvania Coal Co.						
Silver Hill,	Schuylkill,	E. P. Fink,	90 West St., New York	J. V. Connor,	Middleport,	P. and R.
Gorman and Campion						
Bell,	Schuylkill,	Daniel J. Slattery,	Tuscarora,	Daniel J. Slattery,	Tuscarora,	P. and R.
Schuylkill and Lehigh Coal Co.						
Brockton,	Schuylkill,	Jacob Britton,	Pottsville,	Jacob Britton,	Pottsville,	P. and R.

TABLE 2. Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh and Wilkes-Barre Coal Co.													
Audenried No. 4,	Schuylkill,	403,032	61,491	3,722	471,245	255	842	4	14	46,675	302,863	....	78
Strippings,		....	....	....	....	......	22	......	......	....	....	....	......
Honey Brook No. 5,		317,333	13,194	....	330,527	257	586	3	12	9,050	166,580	....	47
Strippings,		....	....	....	....	......	56	......	......	....	....	....	......
Miscellaneous,		....	....	....	....	......	94	......	......	....	....	....	......
Totals,		720,365	77,685	3,722	801,772	......	1,600	7	26	55,725	469,443	....	125
Philadelphia and Reading Coal and Iron Co.													
Silver Creek,	Schuylkill,	425,689	27,898	4,750	458,337	263	1,321	5	9	49,525	105,360	73,910	83
Eagle Hill,	Schuylkill,	238,549	19,447	4,216	262,212	262	676	3	13	7,275	37,721	65,290	44
Totals,		664,238	47,345	8,966	720,549	......	1,997	8	22	56,800	143,081	139,200	127
Maryd Coal Co.													
Maryd,	Schuylkill,	271,047	41,189	1,966	314,202	184	508	......	5	1,700	131,429	....	55
Dodson Coal Co.													
Morea,	Schuylkill,	257,094	31,800	960	289,854	298	605	......	1	424	63,496	....	43
Coxe Brothers and Co., Inc.													
Oneida,	Schuylkill,	229,728	33,703	4,161	267,592	266	465	3	4	750	104,751	....	77

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Lehigh Valley Coal Co. Buck Mountain, ...	Schuylkill, ...	226,086	30,186	861	257,133	250	609	4	6	157,900	32,288	31,033	65
Mill Creek Coal Co. Middle Lehigh, ...	Schuylkill, ...	90,284	19,060	....	109,344	211	240	......	4	47,550	21,325	....	37
East Lehigh Coal Co. East Lehigh, ...	Schuylkill, ...	26,273	9,000	9,394	44,667	269	136	3	......	....	6,750	....	12
Port Carbon Coal Co. Lucy R., ...	Schuylkill, ...	40,207	540	225	40,972	257	91	1	......	....	15,875	....	6
Alliance Coal Co. Alliance,†	Schuylkill, ...	22,385	9,785	....	32,170	54	310	5	7	475	64,822	....	38
Eastern Pennsylvania Coal Co. Silver Hill, ...	Schuylkill, ...	27,630	3,842	244	31,716	224	97	......	3	....	9,350	....	7
Gorman and Campion Bell, ...	Schuylkill, ...	27,966	3,000	636	31,602	224	91	......	......	....	....	24,000	7
Schuylkill and Lehigh Coal Co. Brockton,†	Schuylkill, ...	26,500	700	60	27,260	131	62	......	......	....	850	....	2
Grand totals, ...	....	2,629,803	307,835	31,195	2,968,833	......	6,511	31	78	321,324	1,063,460	194,233	601

†Suspended indefinitely.

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Lehigh and Wilkes-Barre Coal Co.,	Schuylkill,	20	700	52	5,830	6,530	8	.....	1	46	6,175	13	20,663	9,745	2	3
Philadelphia and Reading Coal and Iron Co.,		20	600	22	3,050	3,650	5	3	1	68	9,074	5	5,044	1,840	2	4
Maryd Coal Co.,		......	......	11	1,800	1,800	1	......	......	16	2,450	5	5,000	1,500	......	1
Dodson Coal Co.,		......	......	23	2,225	2,225	1	......	5	19	2,000	5	4,000	2,900	1	2
Coxe Brothers and Co., Inc.,		......	......	23	3,800	3,800	4	3	......	20	2,750	7	5,920	3,570	......	5
Lehigh Valley Coal Co.,		......	......	7	2,100	2,100	3	3	......	31	6,510	2	5,000	3,000	1	3
Mill Creek Coal Co.,		......	......	18	2,500	2,500	6	......	......	13	1,700	5	8,000	1,600	......	1
East Lehigh Coal Co.,		......	......	3	650	650	.....	......	......	10	567	1	800	400	......	2
Port Carbon Coal Co.,		......	......	2	150	150	.....	......	2	......	50	....	....	....	1	......
Alliance Coal Co.,		......	......	15	2,100	2,100	2	......	......	9	2,075	2	2,350	1,500	......	1
Eastern Pennsylvania Coal Co.,		......	......	5	485	485	2	......	......	6	175	2	1,150	500	1	......
Gorman and Campion,		......	......	2	350	350	.....	......	......	2	200	....	....	....	......	1
Schuylkill and Lehigh Coal Co.,		......	......	4	900	900	3	......	......	7	2,000	1	150	100	......	......
Totals,		40	1,300	187	25,940	27,240	38	9	9	247	35,726	48	58,077	26,655	8	23

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Lehigh and Wilkes-Barre Coal Co.,	Schuylkill, ...	3	5	7	324	205	63	34	17	270	264	1,192	3	7	41	73	87	1	5	191	408	1,600
Philadelphia and Reading Coal and Iron Co.,		3	20	....	459	239	70	1	4	129	265	1,190	....	5	23	55	82	16	8	318	507	1,697
Maryd Coal Co.,		1	1	6	170	112	17	3	2	32	16	360	1	2	11	25	21	....	3	85	148	508
Dodson Coal Co.,		1	1	4	72	80	28	9	6	58	150	409	1	1	20	35	20	8	3	108	196	605
Coxe Brothers and Co., Inc.,		1	8	....	199	18	28	7	1	20	72	354	....	1	7	22	....	....	4	77	111	465
Lehigh Valley Coal Co.,		2	12	....	240	88	33	8	2	13	54	452	1	1	15	21	....	6	4	109	157	609
Mill Creek Coal Co.,		1	1	....	60	26	13	1	4	8	4	118	1	1	11	27	4	8	3	67	122	240
East Lehigh Coal Co.,		1	....	1	30	25	7	1	2	9	....	76	1	1	2	7	12	....	1	36	60	136
Port Carbon Coal Co.,		1	....	....	36	9	4	2	....	14	....	66	1	1	2	2	6	....	....	13	25	91
Alliance Coal Co.,		1	5	....	68	8	13	1	4	63	55	218	1	1	6	21	....	....	2	61	92	310
Eastern Pennsylvania Coal Co.,		1	....	1	31	15	5	2	4	10	....	69	1	1	3	5	8	....	1	9	28	97
Gorman and Campion,		1	1	....	30	10	6	....	....	4	5	57	1	1	3	3	8	1	....	17	34	91
Schuylkill and Lehigh Coal Co.,		1	....	1	16	......	2	....	1	5	3	29	1	1	2	4	2	....	1	22	33	62
Totals,	....	18	54	20	1,735	835	289	69	47	635	888	4,590	13	24	146	300	250	40	35	1,113	1,921	6,511

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Lehigh and Wilkes-Barre Coal Co.,	Schuylkill,	23	22	20	17	22	22	20	18	23	23	21	23	254
Philadelphia and Reading Coal and Iron Co.,		23	24	21	24	24	24	19	16	17	26	22	21	261
Maryd Coal Co.,		16	14	11	15	15	16	16	14	15	18	17	17	184
Dodson Coal Co.,		23	24	24	25	26	25	26	25	25	24	25	26	298
Coxe Brothers and Co., Inc.,		26	21	16	25	26	23	21	19	21	24	23	21	266
Lehigh Valley Coal Co.,		26	22	16	20	21	24	20	19	19	21	21	21	250
Mill Creek Coal Co.,		23	19	23	24	20	19	20	......	2	22	20	19	211
East Lehigh Coal Co.,		13	22	20	21	23	25	24	24	25	25	23	24	269
West Carson Coal Co.,		23	20	13	20	22	21	21	24	21	26	23	23	257
Alliance Coal Co.,		17	15	5	......	......	......	......	......	......	......	9	8	54
Western Pennsylvania Coal Co.,		18	22	17	11	19	21	22	17	24	25	21	7	224
Gorman and Campion,		23	22	12	18	21	20	17	16	18	20	19	18	224
Schuylkill and Lehigh Coal Co.,		25	23	24	24	23	12	......	......	......	......	......	......	131

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 11	Anthony Perages, ...	Lithuanian,	Miner, ...	38	S.	....	....	Eagle Hill, ...	Schuylkill, .	Killed by fall of coal at face of breast.
20	John Willshaw, ...	Polish, ...	Miner, ...	37	M.	1	4	Eagle Hill, ...		Killed by fall of coal from face of chute.
22	Frank Crase, ...	American, ..	Loader, ...	31	M.	1	1	East Lehigh, ...		Killed by concussion that closed the gangway fifty feet from where he was loading a mine car.
	Peter Ninus, ...	Lithuanian,	Miner, ...	34	M.	1	1	East Lehigh, ...		Killed by fall of coal on gangway when concussion closed gangway.
	Charles Lucus, ...	Lithuanian,	Miner, ...	27	M.	1	5	East Lehigh, ...		Killed by fall of coal in monkey heading when concussion closed gangway.
23	Michael Gallagher, ..	Irish, ...	Engineer, ...	50	M.	1	....	Alliance, ...		Fatally injured when his coat caught on fan and he was twirled around shaft. Outside.
25	Peter Miskitus, ...	Russian, ...	Laborer, ...	33	S.	....	....	Silver Creek, ...		Killed by being smothered by rush of culm from bank while shoveling into chute. Outside.
	Charles Shader, ...	Lithuanian,	Laborer, ...	56	M.	1	....	Silver Creek, ...		Killed by being smothered by rush of culm from bank while shoveling into chute. Outside.
	James Bealek, ...	Polish, ...	Miner, ...	26	M.	1	1	Buck Mountain,		Fatally injured by falling down manway while trying to avoid fall of coal at face of breast.
Feb. 1	Ben Becupsky, ...	Polish, ...	Miner, ...	25	S.	....	....	Alliance, ...		Killed by blast breaking through heading.
March 3	William Roseski, ...	Lithuanian,	Miner, ...	28	S.	....	....	Alliance, ...		Killed by blast on gangway.
18	Lewis Suldosky, ...	Lithuanian,	Jack man, ..	45	M.	1	....	Audenried No. 4,		Fatally injured by being struck by empty dipper of steam shovel in No. 1 East stripping. Outside.
26	Adam Stabanski, ...	Polish, ...	Laborer, ...	26	S.	....	....	Silver Creek, ...		Fatally injured by fall of timber on East bottom split gangway.
April 14	Gustave Skeath, ...	American, ..	Miner, ...	27	M.	1	....	Buck Mountain,		Killed by fall of slate in No. 61 breast while robbing pillars.
May 28	John Stansky, ...	Russian, ...	Miner, ...	40	M.	1	5	Honey Brook No. 5.		Fatally injured by being thrown down manway by rush of loose coal.
June 13	John Ardman, ...	Lithuanian,	Miner, ...	54	W.	....	3	Eagle Hill, ...		Killed by cars in tunnel.
19	John Kerchunis, ...	Lithuanian,	Miner, ...	29	S.	....	....	Lucy R., ...		Killed by fall of rock on gangway.

June	21	John Korella,	Lithuanian,	Miner,	38	S.	....	....	Audenried No. 4,	Schuylkill,	Killed by being struck by piece of coal under the battery in pillar chute.
	25	Peter Mostack,	Slavonian,	Miner,	35	M.	1	1	Alliance,		Killed by falling down No. 2 shaft.
		Michael Weary,	Hungarian,	Laborer,	28	S.	....	....	Alliance,		Killed by falling down No. 2 shaft.
July	10	George Rusnak,	Slavonian,	Miner,	49	M.	1	1	Oneida,		Fatally injured by being squeezed between top of loaded car and door frame or collar of set of gangway timber.
	12	Thomas Alebustea,	Lithuanian,	Miner,	36	S.	....	....	Oneida,		Killed by fall of coal on No. 3 heading.
Aug.	22	John Shisko,	Slavonian,	Laborer,	45	M.	1	4	Honey Brook No. 5.		Fatally injured while uncoupling locomotive from loaded cars. He fell under the cars and his back and shoulder were broken. Outside.
	26	William Apilitus,	Lithuanian,	Miner	46	M.	1	6	Silver Creek,		Fatally injured by rush of water from trial hole at face of gangway.
Sept.	3	Stiney Kuklis,	Lithuanian,	Driver,	19	S.	....	....	Silver Creek,		Killed between car and rib of tunnel on curve of West Top split vein.
	15	Simon Julius,	Lithuanian,	Miner,	33	M.	1	2	Buck Mountain,		Killed by fall of roof at face of work in pillar breast, No. 4 West Top split.
	19	Joseph Furl,	Tyrolean,	Company man.	27	S.	....	....	Honey Brook No. 5.		Killed by cars on Wharton slope, Green Mountain section.
Oct.	13	Frank Stahotsky,	Polish,	Laborer,	19	S.	....	....	Audenried No. 4,		Killed by blast at face of breast.
Nov.	4	John Bayuse,	Slavonian,	Miner,	44	M.	1	2	Oneida,		Killed by blast at face of breast.
Dec.	10	Joseph Yesavage,	Lithuanian,	Miner,	28	M.	1	1	Buck Mountain,		Fatally injured by falling down chute.
	11	William S. Davis,	Welsh,	Mine foreman.	49	M.	1	2	Audenried No. 4,		Fatally injured by fall of slate on No. 4 West Lykens gangway.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 2	Peter Nonertavage, ...	Polish, ...	Driver, ...	27	S.	Buck Mountain, ...	Schuylkill, .	Kicked by mule while unhooking trace from spreader.
4	Joseph Mickey, ...	Polish, ...	Miner, ...	33	M.	Alliance, ...		Shoulder bone broken by fall of coal while sinking leg hole on high side of gangway.
7	Andrew Rencavage, ..	Lithuanian,	Laborer, ...	23	S.	Eagle Hill, ...		Face burned by gas at face of chute.
14	Michael Butts, ...	Lithuanian,	Miner, ...	24	S.	Buck Mountain, ...		Back bruised by fall of coal at face of breast.
20	Joseph Gawge, ...	Russian, ...	Miner, ...	23	S.	Audenried No. 4, ...		Contusion of head and back and internal injuries by fall of top coal at face of breast.
	Frank Stephnie, ...	Russian, ...	Company man, ...	23	S.	Audenried No. 4, ...		Leg crushed and back bruised by prop falling on him on No. 2 inside slope, Buck Mountain vein.
22	Theodore Tesluck, ...	Polish, ...	Miner, ...	29	M.	Buck Mountain, ...		Knee joint dislocated and leg bruised by fall of slate at face of breast.
27	Stiney Plesco, ...	Polish, ...	Laborer, ...	26	M.	Eagle Hill, ...		Head cut by falling down manway.
Feb. 1	John Veches, ...	Lithuanian,	Miner, ...	24	S.	Honey Brook No. 5, ..		Leg fractured by fall of coal off pillar he was robbing.
	Alex. Sherna, ...	Russian, ...	Laborer, ...	24	S.	Audenried No. 4, ...		Leg fractured by fall of roof while loading car on platform of No. 25 breast.
8	Walter Burns, ...	English, ...	Fire boss, ...	43	M.	Buck Mountain, ...		Body bruised and face cut by mine car while putting it on track on Vulcan slope.
10	Andrew Simons, ...	Lithuanian,	Miner, ...	47	M.	Alliance, ...		Back bruised and cut by fall of top coal at face of breast.
11	George Vettar, ...	Polish, ...	Miner, ...	42	M.	Honey Brook No. 5, ..		Jaw bone fractured by flying rock from blast on gangway.
18	Michael Slevko, ...	Russian, ...	Laborer, ...	17	S.	Honey Brook No. 5, ..		Hand injured by explosion of dynamite cap.
	Michael Zinbitsky, ..	Russian, ...	Patcher, ...	17	S.	Honey Brook No. 5, ..		Lip lacerated by kick from mule.
19	Michael Bavalica, ...	Russian, ...	Laborer, ...	19	S.	Honey Brook No. 5, ..		Two fingers badly lacerated and one broken while spragging car. Outside.
25	Alex. Groditsky, ...	Polish, ...	Miner, ...	25	S	Audenried No. 4, ...		Leg fractured by fall of bony coal at face of breast.

March	1	Michael Pecheck, ...	Polish, ...	Laborer, ...	20	S.	Alliance, ...	Schuylkill, .	Leg broken by being struck by piece of timber thrown down from monkey heading to gangway.
		Joseph Stepera, ...	Polish, ...	Laborer, ...	22	S.	Alliance, ...		Ankle broken by fall of timber on gangway.
	3	John Hassay, ...	Polish, ...	Jig runner, ...	16	S.	Middle Lehigh, ...		Leg broken when coat caught on revolving shaft. Outside.
	6	Michael Hupsay, ...	Hungarian, .	Company man, ...	24	M.	Audenried No. 4, ...		Ankle fractured between mine cars.
		Edward Morech, ...	American, ..	Patcher, ...	18	S.	Maryd, ...		Leg injured by mine car. Outside.
	18	Michael Billa, ...	Russian, ...	Miner, ...	45	M.	Honey Brook No. 5, ..		Hand cut by fall of coal at face of chute.
April	4	Albert Tribiola, ...	Italian, ...	Laborer, ...	18	S.	Morea, ...		Arm broken when caught in spider of conveyor line. Outside.
		Michael Margra, ...	Italian, ...	Miner, ...	29	M.	Honey Brook No. 5, ..		Hands and face burned by gas.
	22	Walter Sagutko, ...	Polish, ...	Miner, ...	33	M.	Eagle Hill, ...		Hands and face burned by gas at face of No. 7 chute, West Middle split vein.
	25	George Yanashepski, ..	Lithuanian,	Miner, ...	33	S.	Silver Creek, ...		Hands and face burned by gas at face of No. 6 chute, West Middle split vein.
		John Hustes, ...	Russian, ...	Laborer, ...	27	S.	Silver Creek, ...		Hands and face burned by gas at face of No. 6 chute.
		John Digner, ...	Polish, ...	Laborer, ...	23	S.	Audenried No. 4, ...		Finger blown off and one eye destroyed by explosion of dynamite cap.
May	12	John Waters, ...	American, ..	Laborer, ...	18	S.	Audenried No. 4, ...		Fingers crushed between bumpers of empty trip of cars. Outside.
	19	George McKenzie, ...	American, ..	Driver, ...	21	S.	Silver Creek, ...		Face cut and burned by explosion of carbide gas.
	21	Peter Dunalavage, ...	Polish, ...	Miner, ...	41	S.	Eagle Hill, ...		Hands and face burned by gas at face of No. 7 chute.
		Joseph Burnosky, ...	Polish, ...	Laborer, ...	33	M.	Eagle Hill, ...		Hand and ear burned by gas at face of No. 7 chute.
		Charles Saris, ...	Polish, ...	Laborer, ...	27	S.	Eagle Hill, ...		Face slightly burned by gas at face of No. 7 chute.
	23	Joseph Grescogen, ...	Russian, ...	Laborer, ...	45	M.	Honey Brook No. 5, ..		Head, face and jaw lacerated by fall of slate at face of breast.
June	2	Anthony Desantes, ..	Italian, ...	Laborer, ...	26	S.	Buck Mountain, ...		Thigh broken by fall of rock at face of tunnel on No. 2 level.
	4	Andrew Kasmer, ...	Russian, ...	Laborer, ...	23	M.	Honey Brook No. 5, ..		Nose fractured by fall of rock.
	12	Lester Blickley, ...	American, ..	Laborer, ...	17	S.	Maryd, ...		Both bones of leg between knee and ankle fractured by being struck by car. Outside.
	25	Thomas Jones, ...	American, ..	Shaft tender, ...	41	M.	Alliance, ...		Skull fractured and shoulder bruised by fall of rock.
July	15	James Della, ...	Italian, ...	Miner, ...	38	M.	Honey Brook No. 5, ..		Leg fractured by fall of slate at face of No. 10 breast.
	19	George Custaw, ...	Greek, ...	Laborer, ...	39	M.	Audenried No. 4, ...		Small bone of left leg broken by falling from the colliery truck wagon to the ground. Outside.
	29	Charles Herbert, ...	German, ...	Driver, ...	39	M.	Silver Creek, ...		Left leg broken by mine car.
Aug.	1	Anthony Shamanski, ..	Polish, ...	Miner, ...	27	M.	Audenried No. 4, ...		One eye destroyed and the other severely injured and head and face cut by explosion of dynamite at face of breast.
		Stephen Nimmick, ...	Russian, ...	Miner, ...	39	M.	Honey Brook No. 5, ..		Shoulder bruised and face cut by fall of coal at face of breast.

TABLE 5.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Aug.	11	Frank Kiep,	American,	Patcher,	24	S.	Maryd,	Schuylkill,	Leg broken in two places between knee and ankle by derailed locomotive.
	23	John Kline,	American,	Driver,	22	S.	Maryd,		Jaw broken by kick from mule.
	26	William Kolish,	Polish,	Laborer,	30	M.	Audenried No. 4,		Arm broken while coupling cars.
Sept.	10	Stiney Masalonis,	Lithuanian,	Miner,	34	S.	Eagle Hill,		Face severely lacerated and hand blown off by blast.
		Peter Shacosky,	Lithuanian,	Miner,	26	S.	Eagle Hill,		Face and body lacerated by blast.
	20	George Masko,	Polish,	Driver,	18	S.	Middle Lehigh,		Top of finger cut off by being caught between hitching plate of car and coupling.
		Frank Mail,	Polish,	Laborer,	40	M.	Middle Lehigh,		Two ribs fractured. He was walking down No. 11 slope when he slipped and fell on his dinner can.
	27	Joseph Stretcher,	Slavonian,	Miner,	31	M.	Maryd,		Spine fractured and all ribs on left side by fall of slate at face of No. 27 breast.
Oct.	7	Harry Valentine,	Slavonian,	Laborer,	31	M.	Oneida,		Finger cut off between pieces of rock at face of breast.
	8	Charles Stuchky,	Lithuanian,	Miner,	42	S.	Oneida,		Rib broken by fall of coal at face of gangway.
	18	Lueas Borcgoski,	Polish,	Miner,	51	S.	Buck Mountain,		Head cut and shoulder bruised by fall of coal in stump heading.
	21	Basloes Bakus,	Lithuanian,	Miner,	27	M.	Eagle Hill,		Hands and face slightly burned by gas.
Nov.	4	Thomas Yasko,	Lithuanian,	Laborer,	25	S.	Silver Creek,		Eye burned by flame from lamp.
	18	Jacob Robinson,	American,	Pump runner,	29	M.	Audenried No. 4,		Finger cut while repairing pump.
		Andrew Kodak,	Lithuanian,	Miner,	54	M.	Eagle Hill,		Right leg badly lacerated by blast at face of breast.
		Anthony Rolis,	Lithuanian,	Miner,	54	M.	Eagle Hill,		Right leg lacerated by blast.
		Paul Noga,	Russian,	Patcher,	19	S.	Audenried No. 4,		Rib fractured by being caught between rib of gangway and mine car.
	19	Jacob Cheluk,	Polish,	Slate picker,	14	S.	Honey Brook No. 5,		Elbow and wrist dislocated by falling from belt he was sliding on to platform, a distance of 16 feet. Outside.
	20	Frank Rice,	American,	Repairman,	25	M.	Silver Hill,		Hands and face burned by gas.
		John Petrosh,	Polish,	Miner,	40	M.	Silver Hill,		Hands and face burned by gas.
		Andrew Rochitus,	Polish,	Miner,	45	M.	Silver Hill,		Hands and face burned by gas.

Nov.	22	William Kostick,	Russian	Driver,	21	S.	Audenried No. 1,	Schuylkill,	Leg fractured by being bumped between loaded cars.
	25	Andrew Andros,	American,	Headman,	22	S.	Oneida,		Leg crushed below the knee by falling under car. Outside.
		Anthony Chiffo,	Italian,	Laborer,	23	S.	Eagle Hill,		Large toe broken by being struck with pick. Outside.
	26	Frank Kopatch,	Slavonian,	Company man,	20	S.	Eagle Hill,		Ankle broken by fall of coal.
Dec.	3	John Itney,	Italian,	Driver,	25	S.	Alliance,		Body squeezed between mine car and prop.
	4	Albert Merook,	Polish,	Miner,	46	S.	Middle Lehigh,		Back bruised by fall of slate at face of breast.
	5	Julian Gregitus,	Polish,	Miner,	31	M.	Silver Creek,		Hands and face burned by gas.
	11	Michael Niadenia,	Polish,	Driver,	19	S.	Alliance,		Leg broken between mine car and prop.
		Mike Plafuo,	Russian,	Company man,	22	S.	Audenried No. 4,		Leg slightly injured by fall of slate.
	22	Mike Sumog,	Slavonian,	Laborer,	38	M.	Silver Creek,		Ankle broken by fall of timber on gangway.
		Andrew Goodrich,	Polish,	Company man,	22	S.	Oneida,		Nose broken by being bumped against empty car.
	31	Andrew Comceye,	Lithuanian,	Miner,	37	M.	Silver Creek,		Hands and face burned by gas at face of breast.
		Hugh McGovern,	American,	Miner,	33	M.	Silver Creek,		Hands and face burned by gas at face of breast.

CONDITION OF COLLIERIES

LEHIGH AND WILKES-BARRE COAL COMPANY

Audenried No. 4 Colliery.—Ventilation, drainage and condition as to safety good.

Honey Brook No. 5 Colliery.—Ventilation, drainage and condition as to safety good.

PHILADELPHIA AND READING COAL AND IRON COMPANY

Silver Creek Colliery.—Ventilation, drainage and condition as to safety good.

Eagle Hill Colliery.—Ventilation, drainage and condition as to safety good.

MARYD COAL COMPANY

Maryd Colliery.—Ventilation, drainage and condition as to safety good.

DODSON COAL COMPANY

Morea Colliery.—Ventilation, drainage and condition as to safety good.

COXE BROTHERS AND COMPANY, INCORPORATED

Oneida Colliery.—Ventilation, drainage and condition as to safety good.

LEHIGH VALLEY COAL COMPANY

Buck Mountain Colliery.—Ventilation, drainage and condition as to safety good.

MILL CREEK COAL COMPANY

Middle Lehigh Colliery.—Ventilation good, drainage fair; condition as to safety good.

EAST LEHIGH COAL COMPANY

East Lehigh Colliery.—Ventilation good; drainage fair; condition as to safety good.

PORT CARBON COAL COMPANY

Lucy R. Colliery.—Ventilation fair, drainage bad; condition as to safety good.

ALLIANCE COAL COMPANY

Alliance Colliery.—Ventilation good; drainage fair; condition as to safety good.

EASTERN PENNSYLVANIA COAL COMPANY

Silver Hill Colliery.—Ventilation fair; drainage in part of the mine bad; condition as to safety good.

GORMAN AND CAMPION

Bell Colliery.—Ventilation and drainage fair; condition as to safety good.

SCHUYLKILL AND LEHIGH COAL COMPANY

Brockton Colliery.—Ventilation fair; drainage bad; condition as to safety good.

IMPROVEMENTS

LEHIGH AND WILKES-BARRE COAL COMPANY

Audenreid No. 4 Colliery.—Drove tunnel from Lykens to Lykens vein, No. 4 west, No. 11 slope.

Drove tunnel from Buck Mountain to Lykens vein, No. 4 west, south dip, No. 1 basin.

Drove tunnel from Lykens to Mammoth vein. No. 23 slope.

Drove tunnel from Buck mountain to Buck mountain vein, No. 23 slope.

Drove tunnel from Buck Mountain to Lykens vein, No. 5 tunnel, No. 11 slope.

Completed removal of water from No. 9 basin from No. 23 slope.

Installed pumping plant in No. 21 slope, equipped with 17 by 28 by 10 by 36 inch Jeanesville duplex pump.

Honey Brook No. 5 Colliery.—Dispensed with Green Mountain separator for preparation of coal.

Sank an inside slope in No. 20 slope from No. 2 East Lykens gangway.

PHILADELPHIA AND READING COAL AND IRON COMPANY

Silver Creek Colliery.—Fireproof stable on No. 1 plane has been completed.

Fireproof stable of concrete and steel is being built on No. 4 plane level.

No. 1 cross cut, West Middle Split, No. 3 plane level, has been completed south to a local basin in the Top Split a distance of 425 feet.

Tunnel 5 by 6 feet, 195 feet long, from West Holmes gangway to air shaft, for traveling way for No. 4 plane level, has been completed.

A concrete hospital, lighted and heated by electricity, has been built on No. 4 level.

Tunnel, 105 feet long, from East Skidmore, No. 4 plane gangway at breast No. 33 to Seven Foot has been completed.

Tunnel, 121 feet long, has been driven from the East Middle Split, No. 5 plane, to the Top Split vein.

No. 9 Drift. Tunnel 105 feet long, has been driven from the Skidmore south to the Bottom Split of the Mammoth.

New drifts on the Seven Foot vein, Ledger vein basin, have been started.

A new drift on the Bottom Split of the Mammoth vein, Ledger vein basin, has been started.

A new steam tip has been installed in breaker.

A clutch drum has been installed on the coal shaft engines.

A new smith and carpenter shop has been constructed.

The new landing on coal shaft at No. 3 level has been put into service.

A new timber and supply track from main railroad at breaker has been built to coal shaft.

A 300 K. W. electric generator and engine is being installed in an addition to the power house.

An additional air locomotive has been installed on No. 3 plane level.

Tunnel, 60 foot long, from West Skidmore at breast No. 15, No. 3 plane level, to Seven Foot vein, has been completed.

In West Skidmore, No. 4 plane level, north dip, Nos. 11 and 12 have been driven through to No. 4 drift level and a gangway west will be started at an elevation of 723 to tap the Windy Harbor water.

Eagle Hill Colliery.—The Orchard north dip, Orchard south dip haulage tunnel, Primrose north dip drift, has been driven northward to the Top split of Mammoth vein. The Holmes south dip and the Four Foot veins have been cut. Gangways have been turned east and west on the Holmes north dip and Primrose south dip veins, also east on the Top split of the Mammoth vein.

A P. and R. duplex compound condensing pump, 27 by 50 by 12 by 48 inches, has been installed in the pump room.

The sump tunnel on the Sixth lift has been completed to the Bottom split of the Mammoth vein.

6 inch steam line and 12 inch column line have been placed in the shaft and connected to pump.

The fireproof stable in the Seven Foot vein on the Sixth lift has been completed and is now in use.

An air and water way ventilating and draining the Fifth lift is being driven in the Top split of the Mammoth vein east from the air shaft, a distance of 180 yards, thence south through rock, a distance of 55 yards, on a north dip of 36 degrees to the foot of the Holmes slope.

A rock airway has been driven on the Sixth lift from the Seven Foot Monkey heading at No. 1 chute, West Seven Foot gangway, to the Skidmore vein, taking care of the return air from the stable and the West Seven Foot gangway.

A new boiler plant of sterling boilers is being installed at this colliery. It consists of four boilers, having a total rating of 1,200 horse power.

MARYD COAL COMPANY

Maryd Colliery.—Drained all water from Pott's Big Creek slope on the west and Donahue old slope workings on the east, and connected them with shaft, first level workings.

Equipped second level car hoist, all steel and concrete.

Steel timbered 150 feet of second level.

Made turnouts at bottom of shaft.

Constructing stable on second level in small vein overlying Primrose, 160 feet long, of steel and concrete.

Have driven 469 foot rock tunnel, first level; 366 foot rock tunnel, second level.

Outside: Moved 200 H. P. battery sterling boilers from No. 1 slope to main boiler plant; erected and equipped fireproof emergency hospital; removed 16 foot fan from No. 1 slope and installed it on Bottom Split air hole, No. 2 basin.

DODSON COAL COMPANY

Morea Colliery.—First Level. Tunnel 137 feet long was driven between the 7 foot and the Buck Mountain gangways to allow the robbing of a portion of Seven Foot gangway on the west side. Tunnel 75 feet long was driven between Mammoth and Skidmore to allow the robbing of a portion of South Dip Mammoth on the west side. Tunnel 70 feet long was driven from Mammoth to South dip, Seven Foot vein of Virgin coal. Tunnel 88 feet long on intermediate level was driven from Skidmore to Skidmore west side and a series of rock holes made on this level to allow the robbing of Mammoth vein. Second level series of rock holes was made for robbing proposition. Third level, Reopened 1,750 feet of West Buck gangway and made a series of rock holes to tap Virgin coal.

Installed an electric pump on No. 4 slope and a Goyne steam plunger pump in main pump room.

Outside: Installed a clutch drum to shaft hoisting engines; rebuilt breaker plane; improved shaft for double compartment hoist; installed electric power house complete; installed electrical equipment to electrify No. 4 slope hoist and top of No. 4 slope.

COXE BROTHERS AND COMPANY, INCORPORATED

Oneida Colliery.—Outside: New concrete fan house was erected to take the place of the one destroyed by fire.

A new brick building was erected at Oneida No. 1 and one at Oneida No. 3 for use of first-aid corps.

A rock tunnel, 7 by 9 feet, and 7,027 feet long, was driven to drain the South basin in which are located Nos. 2, 3, 4, 5 and 6 slopes and No. 3 shaft. This tunnel was started from No. 8 West Buck Mountain gangway, South dip, April 16, 1912, and from the north on surface end and near the town of Nuremberg May 9, 1912. The two ends met on June 10, 1913. The grade is .3328 per cent., or about 3⅞ inches in 100 feet.

The use of the tunnel relieves the operations of nine pumps.

LEHIGH VALLEY COAL COMPANY

Buck Mountain Colliery.—No. 1 slope: The timber was removed at the mouth and concrete side walls and reinforced concrete roof put in. The slope track was extended to the third level and a turnout is being made on this level. A tunnel 593 feet long was driven on the second level from Buck Mountain vein to Bottom Split vein, North dip. A device was installed in the stable whereby all the mules can be released at one time in case of emergency.

Vulcan Slope: A tunnel 692 feet long was driven on the fifth level from Skidmore vein, North dip, to Buck Mountain vein, South dip. On sixth level a tunnel 377 feet long was driven from Buck Mountain to the Seven Foot vein, North dip. A tile overcast on fanway was put in on the third level, and tile stoppings are being put in the fanway.

A device was installed in the stable whereby all the mules can be released at one time in case of emergency.

MILL CREEK COAL COMPANY

Middle Lehigh Colliery.—Stripped a portion of outcrop, Buck Mountain vein, east of No. 3 slope. Stripped Top Split vein to basin, western portion. Built new flume across basin to convey water from pumps to creek channel. Continued sinking No. 11 slope. Iron posts and steel mangers placed in Second lift stables, and iron posts and concrete mangers in first lift stable. Erected a new head house at foot of conveyor leading to breaker. Moved platform and principal rolls from breaker to head house.

PORT CARBON COAL COMPANY

Lucy R. Colliery.—Continued tunnel from Holmes vein to Primrose vein, 137 feet north. Tunnel driven from Tunnel vein to Rabbit vein, 86 feet north.

ALLIANCE COAL COMPANY

Alliance Colliery.—A tunnel has been driven across the measures at the bottom of No. 1 shaft, from the Bottom Bench to the Skidmore gangway, 142 feet, to take the place of the old west side turnout in the Bottom Bench. The Skidmore gangway, South basin, No. 1 shaft level, east from the North Dale tunnel, has been driven through a rock fault for a haulage way, a distance of 300 feet.

Balance plane across pitch from East Skidmore gangway, North Dale tunnel, North basin, to the counter level, has been completed, a distance of 540 feet on a 30-degree pitch.

The Barney pits and Drum pit are walled through with concrete.

The curved tunnel at foot of plane, for the loaded car track, was driven a distance of 155 feet.

The double track tunnel at top of plane was driven to the Seven Foot vein, 120 feet.

Haulage tunnel west of plane from Skidmore to Seven Foot on plane level was driven 67 feet.

Haulage gangway in Seven Foot at top of plane has been driven 295 feet.

Tunnel from face of Seven Foot gangway at top of plane has been driven south to the Skidmore and Bottom Bench veins, 88 feet.

Rock hole 60 feet long driven in Skidmore west of plane to Bottom Bench for ventilation.

Rock hole 63 feet long driven in West Skidmore, South basin, No. 1 shaft level, to Bottom Bench.

Tunnel on east side in North Dale water level driven from North dip of Bottom Bench to South dip of Bottom Bench, 75 feet.

North Dale Basin: New airway driven on the Skidmore vein to the fan shaft at surface, a distance of 572 feet from the plane level gangway, crossing the West Skidmore gangway in the water level, with a new overcast of concrete and steel timber construction. The fan shaft at the surface is 21 feet deep, 10 by 10 feet.

A new concrete hospital, 20 by 8 feet, was erected on No. 1 shaft level in old No. 1 slope tunnel.

No. 2 shaft has been sunk from the surface, a distance of 260 feet, connecting with the old inside shaft at the Diamond vein, making a total depth of 1,386 feet. The new part has been sunk two and one-half compartments, the extra one-half compartment to be used as a pump way from the proposed Diamond level. The water from this shaft is now being hoisted directly to the surface in 2,000 gallon tanks.

Outside: Built corrugated iron engine house, 24 by 18 feet, for dirt plane engines, replacing old one destroyed by fire; corrugated iron house, 25 by 10 feet, for new La France chemical engine and water tank; corrugated iron pump house, 24 by 18 feet, for boiler feed pump and new 2,400-horsepower Cochrane heater.

Installed 400 feet of exhaust steam lines of galvanized spiral riveted pipe from No. 1 shaft engines, compressor and Holmes fan to Cochrane heater. New head frame erected over No. 2 shaft for hoisting water to surface. Reinforced concrete dam for fresh water, erected at North Dale ravine, capacity 250,000 gallons.

Two thousand one hundred feet 6-inch Wychoof wooden pipe line from North Dale dam to tank at boiler house.

A new 10-foot Sturtevant fan and engine have been placed on North Dale Skidmore airway, and concrete house erected.

Six new 30-foot stacks have been erected at boiler house.

A new 14-inch cast iron header line has been run along the tops of the boilers and new connections made from the boilers.

The old stone house near the boiler house, formerly used as dwelling, has been converted into a supply house and office for outside and inside foremen. The lamp house has also been moved into this building.

Two thousand four hundred feet of 4-inch wrought iron pipe has been placed from the boiler house to the North Dale fan and covered with cellular pipe covering.

EASTERN PENNSYLVANIA COAL COMPANY

Silver Hill Colliery.—Rock Town tunnel was reopened and bed of tunnel cut down to grade. Work has been commenced in the following veins: Lykens Nos. 1 and 2, Buck Mountain Bed A and Skidmore veins, all on North dip.

Slope on South dip has been extended below No. 2 level, 93 feet.

A concrete dam has been built in South tunnel, No. 2 level, to control the water in time of heavy rain.

Outside: An addition, 12 by 50 feet, has been made to each side of the breaker, the screens torn out and double deck shakers put in to replace them.

A ditch, 1,100 feet long, has been cut to conduct the stream of water around the breach holes and back to its regular course.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Union Hall, Pottsville, March 25 and 26.

The Board of Examiners was composed of John Curran, Mine Inspector, Pottsville; Luke Stiles, Superintendent, Cumbola; William J. Brennan, Miner, Port Carbon.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Joseph Garland, John Gardiner, Lansford; David Newton, Thomas H. Newton, Summit Hill; Thomas J. Evans, Burk Harvey, Coal dale; Conrad Dresch, Mahanoy City.

ASSISTANT MINE FOREMEN

Harry Reese, Thomas P. Evans, Bernard Sharp, Tamaqua; William P. Gardiner, Samuel Watkins, Robert C. Davidson, Edward C. Boyle, David J. Willingham, Charles Rotett, William E. Watkins, Lansford; Jeremiah Rowan, Samuel Morgan, John Pisko, Silver Creek; Thomas J. Kenney, James Whalen, Tuscarora; Harry A. Houser, Zello Davis, David J. Young, Summit Hill; Thomas J. West, Jr., Coaldale; Thomas Dalley, Evan Jones, Patrick Boner, Seek; Charles Maloney, William Bitler, Daniel Breslin, Oneida; Thomas Burns, Sheppton; Daniel Brennan, Morea Colliery; James Brennan, Ray Ronemus, Harry O. Jenkins, Morgan D. Morgans, Fred Lewis, Nesquehoning; Elmer J. Hill, Audenried; John Devanney, Buck Mountain; Stephen Horvath, Andrew Kapitula, McAdoo.

NINETEENTH DISTRICT

SCHUYLKILL COUNTY

Pottsville, Pa., February 26, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines of the Nineteenth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

MICHAEL J. BRENNAN,
Inspector.

SUMMARY OF STATISTICS

Number of collieries,	18
Number of mines,	52
Number of mines in operation,	51
Number of tons of coal shipped to market,	2,753,648
Number of tons used at mines for steam and heat,	480,492
Number of tons sold to local trade and used by employes,	36,042
Number of tons produced,	3,270,182
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	5,229
Number of persons employed outside,	2,596
Number of fatal accidents inside of mines,	15
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	40
Number of non-fatal accidents outside,	3
Number of tons of coal produced per fatal accident inside,	218,012
Number of tons produced per fatal accident outside,	1,090,061
Number of tons produced per fatal accident inside and outside,	181,677
Number of persons employed per fatal accident inside,	349
Number of persons employed per fatal accident outside,	865
Number of persons employed per fatal accident inside and outside,	435
Number of persons employed per non-fatal accident inside,	131
Number of persons employed per non-fatal accident outside,	865
Number of persons employed per non-fatal accident inside and outside,	182
Number of wives made widows,	11
Number of children made orphans,	21
Number of steam locomotives used inside of mines,	2
Number of steam locomotives used outside,	41
Number of compressed air locomotives used inside,	1
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	19
Number of electric motors used outside,	....
Number of fans in use,	46
Number of furnaces in use,	....
Number of gaseous mines in operation,	31
Number of non-gaseous mines in operation,	20
Number of new mines opened,	2
Number of old mines abandoned,	1

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company,	1,415,214
Lytle Coal Company,	387,075
Pine Hill Coal Company,	342,258
St. Clair Coal Company,	337,661
Oak Hill Coal Company,	275,248
Buck Run Coal Company,	215,807
Darkwater Coal Company,	103,999
White and Company,	52,681
Mt. Hope Coal Company,	44,748
Wolf Creek Coal Company,	42,553
John H. Davis Company,	31,893
Butcher Creek Coal Company,	16,128
Black Heath Coal Company,	4,917
Total,	3,270,182

Production by Counties

Schuylkill,	3,270,182

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	4	1	5	16	1	17	353,804	88,451	2,487	1,131	3,618	622	1,131	155	1,131
Lytle Coal Co.,	3	1	4	12	1	13	129,025	32,256	594	239	833	198	239	50	239
Pine Hill Coal Co.,	2	......	2	......	......	......	171,129	....	540	191	731	270	....	....	....
St. Clair Coal Co.,	2	......	2	3	......	3	168,830	112,554	394	316	710	197	....	131	....
Oak Hill Coal Co.,	2	......	2	3	......	3	137,624	91,749	503	222	725	251	....	168	....
Buck Run Coal Co.,	2	......	2	1	......	1	107,904	215,807	332	138	470	166	....	332	....
Darkwater Coal Co.,	......	1	1	2	......	2	....	51,999	113	90	203	....	90	57	....
White and Co.,	......	......	......	2	......	2	....	26,340	119	57	176	....	....	59	....
Mt. Hope Coal Co.,	......	......	......	1	1	2	....	44,748	87	101	188	....	....	87	101
Miscellaneous Companies,	......	......	......	......	......	......	....	....	60	111	171	....	....	....	....
Totals and averages for district,	15	3	18	40	3	43	218,012	81,755	5,229	2,596	7,825	349	865	131	865

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	....	....	....	....	....	2	1	....	....	....	....	3	20.00
Falls of slate, ...	....	....	1	....	....	....	....	1	....	1	....	1	4	26.66
Mine cars, ...	....	....	1	....	....	....	....	....	....	....	....	....	1	6.67
Explosions of gas, ...	....	....	....	....	1	1	....	....	1	....	....	....	3	20.00
Suffocation by gas, ...	....	....	2	....	1	....	....	....	....	....	....	....	3	20.00
Blasts, premature and otherwise, ...	....	....	1	....	....	....	....	....	....	....	....	....	1	6.67
Totals, ...	....	....	5	....	2	1	2	2	1	1	....	1	15	100.00
Causes of Accidents Outside														
Cars, ...	....	....	....	1	....	....	....	....	....	....	....	....	1	33.33
Suffocation in chutes, etc., ...	....	....	....	....	....	....	....	....	....	1	....	....	1	33.33
Struck by lever, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	33.34
Totals, ...	....	....	5	....	2	1	2	2	1	1	....	1	15	100.00
Grand totals inside and outside, ...	...	....	5	1	2	1	2	2	1	3	....	1	18	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	**Totals**	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	....	....	....	....	....	....	....	2	....	1	....	3	7.50
Falls of slate, ...	....	....	1	3	....	1	....	....	....	....	....	1	6	15.00
Mine cars, ...	1	....	....	2	....	2	1	....	2	....	....	...	8	20.00
Explosions of gas, ...	2	1	3	2	2	1	....	....	....	....	....	1	12	30 00
Blasts, premature and otherwise, ...	....	....	1	....	....	2	....	2	....	1	....	1	7	17.50
Falling into slopes, etc., ...	....	1	....	....	....	....	....	....	....	....	....	....	1	2.50
Rush of water and coal, ...	....	....	....	1	....	....	....	....	....	....	....	....	1	2.50
Struck by timber, ...	....	....	....	....	....	....	....	1	....	....	1	....	2	5.00
Totals, ...	3	2	5	8	2	6	1	3	4	1	2	3	40	100.00
Causes of Accidents Outside														
Cars, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	33.33
Scalded by steam, ...	....	1	....	....	....	....	....	....	....	....	....	..	1	33.33
Blast in stripping, ...	....	....	....	....	....	....	....	....	....	....	....	1	1	33.34
Totals, ...	....	1	....	....	....	....	....	....	....	1	....	1	3	100.00
Grand totals inside and outside, ...	3	3	5	8	2	6	1	3	4	2	2	4	43	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	....	4	....	2	1	2	1	1	....	....	....	11
Miners' laborers,	....	....	1	....	....	....	....	1	....	1	....	1	4
Totals,	....	....	5	....	2	1	2	2	1	1	....	1	15
Outside													
Slatepickers (boys),	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	....	....	....	1	....	....	....	....	....	1	....	....	2
Totals,	....	....	....	1	....	....	....	....	....	2	....	....	3
Grand totals inside and outside,	....	....	5	1	2	1	2	2	1	3	....	1	18

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Assistant mine foremen,	....	....	....	1	....	....	....	....	....	....	....	....	1
Miners,	2	2	5	3	2	4	....	3	1	1	1	3	27
Miners' laborers,	....	....	....	4	....	1	....	....	1	....	....	....	6
Drivers and runners,	1	....	....	....	....	1	1	....	1	....	....	....	4
Loaders,	....	....	....	....	....	....	....	....	....	....	1	....	1
Motormen,	....	....	....	....	....	....	....	....	1	....	....	....	1
Totals,	3	2	5	8	2	6	1	3	4	1	2	3	40
Outside													
Laborers,	....	1	....	....	....	....	....	....	....	1	....	1	3
Totals,	....	1	....	....	....	....	....	....	....	1	....	1	3
Grand totals inside and outside,	3	3	5	8	2	6	1	3	4	2	2	4	43

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	....	....	....	....	....	1	....	1	....	....	2
Irish,	....	....	....	1	....	....	....	....	....	....	....	....	1
Polish,	....	....	1	....	1	....	....	....	....	....	....	....	2
Hungarian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Italian,	....	....	1	....	....	....	....	....	....	1	....	....	2
Slavonian,	....	....	2	....	....	1	....	....	....	....	....	1	4
Lithuanian,	....	....	1	....	....	....	1	1	1	....	....	....	4
Greek,	....	....	....	....	1	....	....	....	....	....	....	....	1
Swedish,	....	....	....	....	....	....	1	....	....	....	....	....	1
Totals,	....	....	5	1	2	1	2	2	1	3	....	1	18

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	1	1	2	....	....	1	....	1	1	....	7
Polish,	....	....	....	1	....	....	....	....	1	1	....	1	4
Italian,	....	1	3	2	....	....	....	....	....	....	....	....	6
Slavonian,	2	1	1	....	....	2	1	....	1	....	1	2	11
Lithuanian,	....	....	....	1	....	1	....	2	2	....	....	....	6
Russian,	1	1	....	2	....	3	....	....	....	....	....	1	8
Greek,	....	....	....	1	....	....	....	....	....	....	....	....	1
Totals,	3	3	5	8	2	6	1	3	4	2	2	4	43

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.															
Otto Colliery:															
Otto,	Shaft,	Gaseous,	2 Fans,	18	6	5.6	71	.6	Guibal,	Steam,	12	28,208	10,995	32,000	40
				21	7	6	84	2.5				93,814	42,208	100,708	129
Otto,	Drift,	Gaseous,	2 Fans,	15	5	3.5	104	1.5				38,700	17,500	39,480	71
				15	5	3.5	85	1				48,100	25,080	49,580	116
Otto,	Drift,	Non-gas.,	Fan,	12	4.2	3.6	60	.6				20,000	16,000	21,120	13
Otto,*	Drift,	Non-gas.,	....	......	......	......	......	......	....	....	..	....	....	....	......
Wadesville Colliery:															
Wadesville,	Shaft,	Gaseous,	Fan,	21	7	6	73	1.4	Guibal,	Steam,	17	62,900	36,030	69,250	93
Wadesville,	Shaft,	Gaseous,	Fan,	21	7	6	73	1.4	Guibal,	Steam,		55,870	32,000	60,250	81
Wadesville, Holmes,	Slope,	Non-gas.,	Fan,	8	5	2	116	3	Guibal,	Steam,	4	17,840	17,700	18,200	37
Wadesville, Primrose,	Slope,	Non-gas.,	Fan,	15	5	4.6	56	1			3	17,200	16,600	26,460	66
Wadesville, Vulcan,	Slope,	Non-gas.,	Fan,	8	2.8	2.5	90	.4			3	15,540	15,000	16,000	36
Wadesville, Beechwood,	Drift,	Non-gas.,	Fan,	18	6	5	42	.4			4	22,880	18,530	23,000	53
Pine Knot Colliery:															
Pine Knot No. 2,	Shaft,	Gaseous,	Fan,	21	7	6	72	1.4	Guibal,	Steam,	7	39,360	27,050	47,370	123
Pine Knot,	Shaft,	Gaseous,									10	30,120	23,760	34,880	100
Phoenix Park Colliery:															
Phoenix Park, Diamond,	Slope,	Gaseous,	Fan,	15	5	3.5	90	1.4	Guibal,	Steam,	5	24,680	16,900	25,745	73
Phoenix Park, Peach Mountain,				21	7	6	80	1.8			17	160,130	125,790	167,440	317
Phoenix Park No. 6,				15	5	3.5	76	.5			6	51,375	43,900	51,775	109

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*Abandoned.

Glendower Colliery:															
Glendower,	Slope,	Gaseous,	Fan,	21	6.10	6	80	1.8	Guibal,	Steam,	9	83,660	37,200	84,200	82
Glendower, West,	Slope,	Gaseous,	Fan,	18	6	5	76	1.7	Guibal,	Steam,	19	152,800	75,000	154,900	223
Glendower,	Drift,	Non-gas.,	Fan,	15	4.6	5	46	.4	Guibal,	Electricity,	5	45,440	23,206	45,800	68
Glendower,	Drift,	Non-gas.,	Fan,	5	......	......	150	.5	Guibal,	Steam,	3	7,800	5,800	8,100	24
John Veith Colliery:															
John Veith No. 1,	Shaft,	Gaseous,	Fan,	15	5	4.6	72	.4	Guibal,	Steam,	8	21,770	12,445	†21,551	54
John Veith No. 2,	Shaft,	Gaseous,	Fan,	15	5	4.6	65	.4	Guibal,	Steam,	10	36,145	20,785	36,616	62
Thomaston Colliery:															
Thomaston,	Slope,	Gaseous,	Fan,	18	6	5.2	85	1	Guibal,	Steam,	7	57,600	31,250	60,250	72
Thomaston,	Slope,	Gaseous,	Fan,	18	6	5.2	39	.2			4	35,600	21,672	37,216	48
Thomaston,	Drift,	Non-gas.,	Fan,	12	4.2	3.5	80	.4			2	29,053	17,500	31,860	
Lytle Coal Co.															
Lytle Colliery:															
Lytle,	Shaft,	Gaseous,	Fan,	18	7	5.10	90	2.2	Guibal,	Steam,	22	242,450	114,625	252,140	381
Lytle,	Slope,	Gaseous,	3 Fans,	18	7	5.10	94	2.1							
				18	7	5.5	100	2.1							
				20	7	5	95	2							
Pine Hill Coal Co.															
Pine Hill Colliery:															
Pine Hill,	Shaft,	Gaseous,	Fan,	20	6	6	79	1.8	Guibal,	Steam,	14	93,285	60,500	102,400	241
Pine Hill,	Slope,	Gaseous,	2 Fans,	12	4.6	4	90	1	Guibal,	Steam,					
				18	4	4	95	1.4	Guibal,	Steam,					
Pine Hill,	Drift,	Gaseous,	Fan,	16	4.6	4.1	100	1.2	Guibal,	Electricity,	7	56,310	40,600	59,640	143
St. Clair Coal Co.															
St. Clair Colliery:															
St. Clair,	Slope,	Gaseous,	2 Fans,	14	5	3.6	90	1.2	Guibal,	Steam,	4	51,380	24,500	53,240	115
				16	5	5	70	.4	Guibal,	Steam,	3	53,260	23,200	55,050	101
St. Clair,	Shaft,	Gaseous,	Natural,	......	......	......	......	......	......	......	..	......	......	......	71
St. Clair,	Tunnel,	Non-gas.,	Natural,	......	......	......	......	......	......	......	..	......	......	......	
Oak Hill Coal Co.															
Oak Hill Colliery:															
Oak Hill,	Shaft,	Gaseous,	Fan,	24	8.3	6.4	70	2.5	Guibal,	Steam,	4	167,580	92,450	169,100	276
Oak Hill,	Slope,	Gaseous,	Fan,	18	6	4	80	1.5	Vulcan,	Steam,	17				
Oak Hill,	Slope,	Gaseous,													
Oak Hill,	Drift,	Non-gas.,	Fan,	8	3	3.2	210	1.7	Guibal,	Steam,	3	10,000	9,500	19,580	
Oak Hill,	Drift,	Non-gas.,	Fan,	6	2	1.6	200	1	Stine,	Steam,	2	6,000	4,500	7,000	
Buck Run Coal Co.															
Buck Run Colliery:															
Buck Run,	Slope,	Gaseous,	Fan,	12	4	4	95	1.5	Guibal,	Steam,	3	35,000	60,500	130,000	247
Buck Run,	Slope,	Gaseous,	2 Fans,	15	6	5	95	1.5			4	40,000			
				16	4	5	95	2			4	50,000			

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†Some of the air passes out at No. 2 shaft.

TABLE I.—Continued

Names of Operators and and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Darkwater Coal Co.															
Newcastle Colliery:															
Newcastle, ...	Slope, ...	Gaseous, ..	Fan, ...	20	6	6	70	1.5	Vulcan, ...	Steam,......	2	25,000	30,000	43.500	81
Newcastle, ...	Slope, ...	Gaseous, ..	Fan, ...	10	3	3	80	1.5	Vulcan, ...	Steam,......	4	15,000			
White and Co.															
Howard Colliery:															
Howard, ...	Slope, ...	Gaseous, ..	Fan, ...	12	4.2	3.4	60	1	Guibal, ...	Steam,......	1	24,000	10,500	26,500	26
Howard, ...	Slope, ...	Gaseous, ..	Fan, ...	10	3	3.8	70	1	Guibal, ...	Steam,......	3	20,000	17,000	22,275	.....
Mt. Hope Coal Co.															
Mt. Hope Colliery:															
Mt. Hope No. 2, ...	Slope, ..	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	....	....	....	87
Mt. Hope No. 8, ...	Slope, ..														
Mt. Hope No. 9, ...	Slope, ..														
Mt. Hope No. 10, ...	Slope, ..														
Mt. Hope No. 11, ...	Slope, ..														
John H. Davis Co.															
Ellsworth Colliery:															
Ellsworth, ...	Slope, ...	Non-gas., .	Fan, ...	6	1.8	1.1	250	1.5	Buffalo, ...	Steam,......	1	6,000	5,000	7,000	21
Butcher Creek Coal Co.															
Laurel Run Colliery:															
Laurel Run, ...	Slope, ...	Non-gas., .	Natural,	......	......	......	......	......	....	....	..	....	....	....	29
Laurel Run, ...	Drift, ...	Non-gas., .													

Black Heath Coal Co. Black Heath Colliery: Black Heath, ...	Slope, ...	Non-gas., .	Natural, ..	......	......	.....	......	......	....	....	..	....	....	....	10

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.						
Otto, Wadesville, Pine Knot, Phoenix Park, Glendower, John Veith, Thomaston, Anchor Washery,	Schuylkill,	W. J. Richards, Vice President,	Pottsville,	Reese Tasker,	Pottsville,	Philadelphia and Reading
Lytle Coal Co.						
Lytle,	Schuylkill,	Robert A. Quin,	Wilkes-Barre,	David J. Randall,	Minersville,	Pennsylvania
Pine Hill Coal Co.						
Pine Hill	Schuylkill,	C. B. Sturgis,	Scranton,	George M. Keiser,	Minersville,	Pennsylvania
St. Clair Coal Co.						
St. Clair,	Schuylkill,			W. T. Smythe,	Pottsville,	Philadelphia and Reading
Oak Hill Coal Co.						
Oak Hill,	Schuylkill,	Thomas B. Righter,	Mt. Carmel,	George Jeffreys,	Minersville,	Philadelphia and Reading
Buck Run Coal Co.						
Buck Run,	Schuylkill,	James B. Neale,	Minersville,	George Hay,	Minersville,	Philadelphia and Reading
Darkwater Coal Co.						
Newcastle,	Schuylkill,	James B. Neale,	Minersville,	John Conway,	Pottsville,	Pennsylvania
White and Co.						
Howard,	Schuylkill,	Richard White,	Pottsville,			Philadelphia and Reading
Mt. Hope Coal Co.						
Mt. Hope,	Schuylkill,	I. D. Beahme,	Port Carbon,			Philadelphia and Reading
Wolf Creek Coal Co.						
Wolf Creek Washery,	Schuylkill,	I. D. Beahme,	Port Carbon,	Allen F. Keller,	Minersville,	Philadelphia and Reading

John H. Davis Co. Ellsworth, ...	Schuylkill, ...	John H. Davis, ...	St. Clair, ...	....	....	Philadelphia and Reading
Butcher Creek Coal Co. Laurel Run, ...	Schuylkill, ...	L. J. Whims, ...	St. Clair, ...	....	....	Philadelphia and Reading
Black Heath Coal Co. Black Heath, ...	Schuylkill, ...	....	....	James Scott, ...	Minersville, ...	Pennsylvania

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.													
Otto,	Schuylkill, ...	277,914	66,634	1,589	346,137	259	764	2	4	9,800	56,570	62,950	90
Wadesville,		286,054	37,575	2,283	325,912	256	807	1	3	11,375	34,429	54,288	56
Pine Knot,		227,910	39,504	1,137	268,551	268	564	......	1	1,175	181,004	32,533	58
Phoenix Park,		199,125	36,032	2,101	237,258	266	681	1	4	3,475	18,053	88,088	63
Glendowr,		165,263	20,029	....	185,292	268	377	......	1	30,750	122,860	6,772	45
John Veith,		44,368	....	....	44,368	*	182	1	3	....	8,976	21,850	16
Thomaston,		....	7,448	....	7,448	†	210	......	1	....	....	....	......
Anchor Washery,		....	248	....	248	......	3	......	......	....	....	....	......
Totals,	....	1,200,634	207,470	7,110	1,415,214	......	3,618	5	17	56,575	421,892	266,481	328
Lytle Coal Co. Lytle,	Schuylkill, ...	297,502	79,210	10,363	387,075	281	833	4	13	....	42,572	11,305	70
Pine Hill Coal Co. Pine Hill,	Schuylkill, ...	309,086	32,000	1,172	342,258	295	731	2	......	52,500	....	53,875	35
St. Clair Coal Co. St. Clair,	Schuylkill, ...	264,894	63,000	9,767	337,661	243	710	2	3	246,175	47,360	....	45
Oak Hill Coal Co. Oak Hill,	Schuylkill, ...	243,778	30,000	1,470	275,248	264	725	2	3	8,125	40,525	106,650	55

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*Coal prepared at Otto Breaker.
†Coal prepared at Pine Knot Breaker.

Buck Run Coal Co. Buck Run,	Schuylkill, ...	186,065	29,000	742	215,807	271	470	2	1	12,475	95,775	....	27
Darkwater Coal Co. Newcastle,	Schuylkill, ...	84,702	18,250	1,047	103,999	206	203	1	2	125	29,750	....	14
White and Co. Howard,	Schuylkill, ...	44,777	7,500	404	52,681	279	176	......	2	200	18,000	....	14
Mt. Hope Coal Co. Mt. Hope,	Schuylkill, ...	39,583	4,250	915	44,748	181	188	......	2	500	4,150	....	9
Wolf Creek Coal Co. Wolf Creek Washery,	Schuylkill, ...	40,753	1,800	....	42,553	299	20	......	......	....	....	....	......
John H. Davis Co. Ellsworth,	Schuylkill, ...	27,865	3,800	228	31,893	290	90	......	......	700	14,600	....	5
Butcher Creek Coal Co. Laurel Run,	Schuylkill, ...	12,436	3,600	92	16,128	222	47	......	......	....	2,800	....	4
Black Heath Coal Co. Black Heath,	Schuylkill, ...	1,573	612	2,732	4,917	306	14	......	......	500	3,000	....	2
Grand totals,	....	2,753,648	480,492	36,042	3,270,182	......	7,825	18	43	377,875	720,424	438,311	608

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Philadelphia and Reading Coal and Iron Co.,	Schuylkill, ...	....	......	81	12,890	12,890	17	1	3	215	28,544	22	31,649	9,714	3	7
Lytle Coal Co.,		....	......	27	3,900	3,900	1	......	2	21	7,287	1	2,500	1,515	3	3
Pine Hill Coal Co.,		....	......	3	2,250	2,250	......	......	5	30	2,040	4	6,000	800	2	......
St. Clair Coal Co.,		....	......	20	3,100	3,100	12	......	5	22	......	2	1,500	900	4	......
Oak Hill Coal Co.,		....	......	5	2,500	2,500	5	......	......	21	1,600	2	2,000	1,100	......	......
Buck Run Coal Co.,		....	......	9	1,800	1,800	1	......	4	26	1,020	3	1,800	900	1	1
Darkwater Coal Co.,		....	......	6	1,200	1,200	1	......	......	16	730	3	4,000	1,400	......	1
White and Co.,		....	......	4	575	575	......	......	......	13	467	4	2,500	900	......	......
Mt. Hope Coal Co.,		....	......	8	850	850	3	......	......	13	775	......	......	......	......	......
Wolf Creek Coal Co.,		....	......	2	100	100	......	......	......	5	120	......	......	......	......	......
John H. Davis Co.,		....	......	6	600	600	3	......	......	7	250	2	1,350	500	......	1
Butcher Creek Coal Co.,		....	......	3	240	240	......	......	......	10	......	3	......	......	......	......
Black Heath Coal Co.,		....	......	1	80	80	......	......	......	2	30	......	......	......	......	......
Totals,	....	......	......	175	30,085	30,085	43	1	19	401	42,863	46	53,299	17,729	13	13

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Philadelphia and Reading Coal and Iron Co.,	Schuylkill, ...	9	51	....	772	398	174	9	22	349	703	2,487	2	13	49	178	97	46	18	728	1,131	3,618
Lytle Coal Co., ...		1	3	13	227	96	47	6	11	30	160	594	1	1	17	40	65	15	8	92	239	833
Pine Hill Coal Co., ...		1	2	7	208	156	38	11	4	....	113	540	1	1	22	17	35	15	4	96	191	731
St. Clair Coal Co., ...		2	....	4	195	78	20	11	4	....	80	394	1	3	16	35	22	16	4	219	316	710
Oak Hill Coal Co., ...		1	....	11	190	104	30	6	3	95	63	503	1	1	17	21	23	8	4	147	222	725
Buck Run Coal Co., ...		1	1	5	119	70	15	10	4	95	12	332	1	1	13	17	16	1	4	85	138	470
Darkwater Coal Co., ...		1	....	1	43	24	12	....	2	28	2	113	1	1	5	10	14	1	1	57	90	203
White and Co., ...		1	1	....	62	23	8	....	2	15	7	119	1	2	3	12	14	2	2	21	57	176
Mt. Hope Coal Co., ...		1	1	....	32	24	4	....	....	25	......	87	1	2	9	14	7	2	1	65	101	188
Wolf Creek Coal Co., ..		....	....	....	......	......	....	....	....	....	......	......	1	1	2	3	2	....	1	10	20	20
John H. Davis Co., ...		1	....	1	8	2	2	....	2	5	......	21	1	1	2	5	4	3	1	52	69	90
Butcher Creek Coal Co.,		1	....	....	8	19	1	....	....	....	......	29	1	1	1	4	1	....	1	9	18	47
Black Heath Coal Co.,..		....	....	....	4	6	....	....	....	....	......	10	1	....	....	....	1	2	....	......	4	14
Totals, ...	....	20	59	42	1,868	1,000	351	53	54	642	1,140	5,229	14	28	156	356	301	111	49	1,581	2,596	7,825

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	25	24	19	25	25	25	18	15	18	26	23	21	264
Lytle Coal Co.,		24	24	22	21	24	25	22	24	24	25	23	23	281
Pine Hill Coal Co.,		25	24	24	25	24	25	25	24	25	27	23	24	295
St. Clair Coal Co.,		22	20	20	21	22	21	18	18	21	20	20	20	243
Oak Hill Coal Co.,		25	21	18	17	16	22	25	24	24	26	23	23	264
Buck Run Coal Co.,		22	24	17	19	24	23	24	24	25	26	22	24	274
Darkwater Coal Co.,		22	23	20	21	24	24	22	24	23	19	21	23	266
White and Co.,		22	21	23	21	23	21	24	25	25	26	23	25	279
Mt. Hope Coal Co.,		24	23	17	20	18	20	......	......	......	10	25	24	181
Wolf Creek Coal Co.,		26	24	25	25	26	25	25	25	25	26	23	24	299
John H. Davis Co.,		24	24	21	24	23	25	24	25	25	26	24	25	290
Butcher Creek Coal Co.,		18	20	9	8	20	23	6	22	24	26	24	22	222
Black Heath Coal Co.,		27	24	26	26	26	25	25	26	25	26	26	24	306

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
March	11	Peter Sterhinsz, ...	Lithuanian,	Miner, ...	48	M.	1	2	Oak Hill, ...	Schuylkill, .	Fatally injured by fall of top slate near face of breast.
	14	Clemence Markowitz,.	Polish,......	Miner, ...	56	M.	1	1	St. Clair, ...		Killed by explosion of powder at face of breast.
	25	Daniel Donato, ...	Italian, ...	Laborer, ...	28	S.	....	....	Pine Hill, ...		Killed by mine car on slope.
	27	George Shimskie, ...	Slavonian, ..	Miner, ...	38	M.	1	5	Buck Run, ...		Suffocated by rush of coal and water from East North Crosby counter chute.
		Nicholas Vida, ...	Slavonian, ..	Miner, ...	28	M.	1	1	Buck Run, ...		
April	12	John Dougherty, ...	Irish, ...	Laborer, ...	60	M.	1	....	Lytle, ...		Fatally injured between Barney and mine car at foot of coal plane. Outside.
May	17	Lawrence Tarnosky, ..	Polish,......	Miner, ...	37	M.	1	3	Otto, ...		Killed by being suffocated by gas at face of chute in East Top split of Mammoth.
	17	Stephen Bender, ...	Greek, ...	Miner, ...	39	M.	1	3	Phoenix Park, ..		Fatally burned by explosion of gas at face of working place.
June	6	Andrew Whiteash, ...	Slavonian, ..	Miner, ...	39	M.	1	3	Oak Hill, ...		Fatally burned by explosion of gas at face of breast.
July	10	John Wassil, ...	Lithuanian,	Miner, ...	24	S.	....	....	Lytle, ...		Killed by fall of coal while removing pillars.
	30	John Axell, ...	Swedish,....	Miner, ...	53	S.	....	....	St. Clair, ...		Fatally injured by fall of coal at face of breast.
Aug.	11	William Ambrose, ...	Lithuanian,	Miner, ...	65	M.	1	2	Lytle, ...		Killed by fall of coal along side of pillar.
	12	Daniel Cahill, ...	American, ..	Laborer, ...	30	S.	....	....	Pine Hill, ...		Killed by fall of slate near face of breast while pushing coal in chute.
Sept.	19	Enoch Osallus, ...	Lithuanian,	Miner, ...	25	S.	....	....	Lytle, ...		Fatally burned by gas at face of breast.
Oct.	2	Frank Gieltz, ...	Hungarian, .	Slatepicker, .	14	S.	....	....	Newcastle, ...		Suffocated in pea coal chute while playing with two other boys. Outside.
	14	Anthony Borrell, ...	Italian, ...	Laborer, ...	25	M.	1	....	John Veith, ...		Killed by fall of slate on gangway while shoveling coal.
	31	John Schaeffer, ...	American, ..	Laborer, ...	23	S.	....	....	Wadesville, ...		Fatally injured. Skull fractured by being struck by lever used for dumping cars. Outside.
Dec.	13	Charles Tuhuranto, ...	Slavonian, ..	Laborer, ...	27	M.	1	1	Otto, ...		Killed by fall of slate at face of gangway while shoveling coal in car.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 24	Michael Kowalshick, ..	Russian, ...	Driver, ...	26	S.	Lytle, ...	Schuylkill, .	Pelvis fractured between mine car and timber.
25	Joseph Uller, ...	Slavonian, ..	Miner, ...	33	S.	Howard, ...		Face and hands burned by gas at face of breast.
25	Frank Sencheski, ...	Slavonian, ..	Miner, ...	32	M.	Howard, ...		Face and hands burned by gas at face of breast.
Feb. 14	George Perhavage, ...	Slavonian, ..	Miner, ...	38	M.	Buck Run, ...		Back injured by being forced down breast by fall of coal from face.
15	Dominick Deparco, ...	Italian, ...	Miner, ...	32	M.	Lytle, ...		Face burned by explosion of gas at face of breast.
24	Paul Linskie, ...	Russian, ...	Laborer, ...	24	M.	Lytle, ...		Face and hands scalded from steam pit. Outside.
March 1	Stephen Cubilla, ...	Slavonian, ..	Miner, ...	22	M.	Wadesville, ...		Arm burned by explosion of gas in breast ignited by naked light.
3	John Diteno, ...	Italian, ...	Miner, ...	29	M.	Lytle, ...		Hands and face burned by explosion of gas.
	Carmine Colanzi, ...	American, ..	Miner, ...	23	M.	Lytle, ...		
14	William Bailey, ...	American, ..	Miner, ...	51	M.	St. Clair, ...		Injured about body by premature blast.
26	Louis Riche, ...	Italian, ...	Miner, ...	32	M.	Phoenix Park, ...		Leg fractured by fall of slate at face of breast.
April 6	Wasel Celicia, ...	Greek, ...	Laborer, ...	21	S.	Glendower, ...		Leg fractured when caught against timber by rush of water and coal in gangway.
19	Paul Kisalavage, ...	Russian, ...	Laborer, ...	28	M.	Phoenix Park, ...		Ribs fractured by buggy upsetting on him.
	Anthony Mitcuss, ...	Russian, ...	Laborer, ...	22	S.	Phoenix Park, ...		Hip dislocated by buggy upsetting on him.
21	Henry Neithammer, ..	American, ..	Assistant foreman,	70	M.	John Veith, ...		Head and body injured by fall of slate.
	Frank Sinks, ...	Polish, ...	Laborer, ...	30	S.	John Veith, ...		Arm and leg injured by fall of slate.
	Joseph Shopenus, ...	Lithuanian,	Miner, ...	36	S.	John Veith, ...		Laceration of scalp by fall of slate.
24	Frank Marks, ...	Italian, ...	Miner, ...	34	M.	Lytle, ...		Face and hands burned by explosion of gas.
	Joseph Marks, ...	Italian, ...	Miner, ...	35	M.	Lytle, ...		Face and hands burned by explosion of gas.
May 23	George Eisenhood, ...	American, ..	Miner, ...	38	M.	Newcastle, ...		Face and hands burned by explosion of gas.
	Benjamin Eisenhood, ..	American, ..	Miner, ...	35	M.	Newcastle, ...		Face and hands burned by explosion of gas.

June	6	John Berwin,	Slavonian,	Miner,	24	S.	Oak Hill,	Schuylkill,	Face and hands burned by explosion of gas.
	7	John Remish,	Slavonian,	Miner,	47	M.	St. Clair,		Leg fractured by flying coal from blast in breast heading.
		Frank Onsicavage,	Russian,	Miner,	44	M.	Lytle,		Hands injured by blast while endeavoring to draw charge of powder from drill hole.
	16	Simon Hydomite,	Russian,	Driver,	47	M.	Lytle,		Collar bone fractured by falling under car coming out of gangway.
	18	James Zemond,	Russian,	Laborer,	20	S.	Lytle,		Hip fractured between cars on top of slope.
	24	Charles Menecavage,	Lithuanian,	Miner,	33	M.	Otto,		Leg fractured by fall of slate at face of breast.
July	25	Michael Suprack,	Slavonian,	Runner,	22	S.	St. Clair,		Body injured between car and mine door post.
Aug.	18	Henry Childs,	American,	Miner,	36	M.	Wadesville,		Arm fractured between car and timber.
	27	Joseph Kuslickie,	Lithuanian,	Miner,	40	M.	Otto,		Injured about head and body by explosion of dynamite.
		Michael Bamasawiski,	Luthuanian,	Miner,	39	M.	Otto,		Injured about head and body by explosion of dynamite.
Sept.	8	Joseph Drossdusky,	Lithuanian,	Motorman,	17	S.	Lytle,		Arm fractured between cars while coupling them.
	16	William Alderinsky,	Lithuanian,	Miner,	26	S.	Oak Hill,		Leg fractured by fall of coal from breast pillar.
	17	Lodus Balanchaka,	Polish,	Laborer,	35	S.	Pine Knot,		Body injured by fall of coal at face of gangway.
	30	Wases Luchanian,	Slavonian,	Driver,	23	S.	Otto,		Arm injured by falling under car.
Oct.	9	William Gaynor,	American,	Laborer,	45	S.	Mt. Hope,		Leg fractured between mine car and steam shovel on stripping. Outside.
	23	Wassel Kussick,	Polish,	Miner,	20	M.	Phoenix Park,		Eyesight destroyed by blast in breast heading.
Nov.	7	Michael Motto,	Slavonian,	Miner,	37	M.	Oak Hill,		Ribs fractured by fall of coal at face of breast.
	12	Melachi Delaney,	American,	Loader,	20	S.	Thomaston,		Arm fractured between fan pipe and gangway leg on gangway.
Dec.	9	John Lotz,	Slavonian,	Miner,	49	M.	Lytle,		Face and hands burned by explosion of gas at face of breast.
	15	Joseph Smiling,	Polish,	Miner,	38	M.	Mt. Hope,		Foot crushed by fall of slate on gangway.
	22	George Hichock,	Slavonian,	Laborer,	25	S.	Wadesville,		Skull fractured by flying coal from blast on stripping. Outside.
	23	Michael Goodyonis,	Russian,	Miner,	22	S.	Lytle,		Head and body injured by premature blast at face of chute.

CONDITION OF COLLIERIES

PHILADELPHIA AND READING COAL AND IRON COMPANY

Otto, Wadesville, Pine Knot, Phoenix Park, Glendower, John Veith, Thomaston Collieries.—Ventilation, drainage and condition as to safety good.

LYTLE COAL COMPANY

Lytle Colliery.—Ventilation and condition as to safety good; drainage good in the greater part of the colliery; fair in the remainder.

PINE HILL COAL COMPANY

Pine Hill Colliery.—Ventilation, drainage and condition as to safety good.

ST. CLAIR COAL COMPANY

St. Clair Colliery.—Ventilation, drainage and condition as to safety good.

OAK HILL COAL COMPANY

Oak Hill Colliery.—Ventilation and condition as to safety good. The drainage has been improved, but it will require considerable labor to bring it up to requirements.

BUCK RUN COAL COMPANY

Buck Run Colliery.—Ventilation and condition as to safety good; drainage fair.

DARKWATER COAL COMPANY

Newcastle Colliery.—Ventilation and condition as to safety good; drainage fair.

WHITE AND COMPANY

Howard Colliery.—Ventilation and drainage fair; condition as to safety good.

MT. HOPE COAL COMPANY

Mt. Hope Colliery.—Ventilation fair; condition as to safety and drainage good.

JOHN H. DAVIS COMPANY

Ellsworth Colliery.—Ventilation fair; condition as to safety and drainage good.

BUTCHER CREEK COAL COMPANY

Laurel Run Colliery.—Ventilation and drainage fair; condition as to safety good.

BLACK HEATH COAL COMPANY

Black Heath Colliery.—Ventilation fair; condition as to safety and drainage good,

IMPROVEMENTS

PHILADELPHIA AND READING COAL AND IRON COMPANY

Wadesville Colliery.—The Beechwood water level tunnel was reopened to the Buck Mountain vein. Gangways are turned west on the Primrose vein and east and west on the Skidmore and Buck Mountain veins.

A tunnel is being driven north from the West Primrose gangway, Beechwood water level tunnel, to the Holmes vein. Estimated distance, 53 yards.

A three compartment shaft, each compartment 7 feet by 12 feet 8 inches, is being sunk at Beechwood to the Seven Foot vein, an estimated distance of 565 feet.

Mammoth vein crop is being stripped for a distance of 1,600 feet east and 200 feet west of the old Beechwood slope.

Vulcan slope has been sunk to the fourth lift and gangways turned east and west.

A traveling way is being driven from No. 2 lift, Vulcan slope, to surface.

Holmes slope is being continued to the fourth lift.

Tunnel in Holmes slope has been continued to the Seven Foot vein. Gangways have been turned east and west.

Primrose slope has been sunk to the fourth lift. A gangway has been turned east at this point.

Tunnel from the East Seven Foot, shaft level gangway, is being driven to the Bottom split of the Mammoth vein. Estimated length 90 yards.

A fireproof stable is being constructed in the East Seven Foot gangway, shaft level.

Rock ventilating hole has been completed from No. 20 breast, No. 1 lift, East Skidmore gangway, West Skidmore plane to the east bottom split of the Mammoth gangway, No. 3 tunnel, No. 2 lift, West Skidmore plane.

Tunnel was driven from the West Skidmore gangway, No. 1 lift, East Skidmore plane, to the Seven Foot vein, and gangways turned east and west.

Rock ventilating hole was driven from breast No. 37, East Skidmore gangway, No. 1 lift, West Skidmore plane to No. 3 tunnel bottom split gangway, No. 2 lift, West Skidmore plane.

Rock ventilating hole has been driven from breast No. 7 in the West Skidmore gangway, shaft level to No. 2 tunnel gangway on the bottom split vein, No. 1 lift, West Skidmore plane.

Rock ventilating hole was driven from breast No. 86, West Skidmore gangway, shaft level, to the top split of Mammoth gangway, No. 1 tunnel, No. 1 lift, West Skidmore plane.

An ash wash has been installed at the main boiler plant.

A landing has been made in the Orchard vein from the South compartment of the tender shaft, and a gangway is being driven east.

Otto Colliery.—Completed—Inside: Haulage tunnel, 7 by 10 feet, from bottom split vein to middle split vein, Skidmore slope, first lift. Fireproof stable in bottom bench gangway, old White Ash slope. Fireproof engine house on sixth lift, Primrose vein. Peach Mountain fireproof pump room, upper lift shaft workings. Drilling of 12-inch bore hole to sixth lift pump room. Installation of electric haulage plant. Concreting at top of Skidmore slope. Hospital in White Ash drift.

In Progress—Inside: Extension of old White Ash slope. Sump gangway and pump house on sixth lift, White Ash slope.

Completed Outside: Power and generator house; stable at Otto Colliery.

In Progress: Installation of electric lighting inside and outside at Otto Colliery.

Pine Knot Colliery.—Completed—Inside: Haulage tunnel 8 by 12 feet from West Lelar to Crosby vein at breast No. 26, first lift, No. 2 shaft; air tunnel 7 by 8 feet from West Lelar to Crosby vein at breast No. 26, first lift, No. 2 shaft. Two hospitals, one in No. 1 shaft and one in No. 2 shaft.

In Progress—Inside: Opening of second lift, No. 2 shaft. Driving haulage tunnel 8 by 12 feet from East Lelar to Crosby vein at breast No. 26, first lift, No. 2 shaft. Driving air tunnel 6 by 8 feet from East Lelar to Crosby vein at breast No. 26½, first lift, No. 2 shaft. Construction of travelingway in Skidmore vein from No. 1 to No. 2 shaft.

Completed—Outside: Wash house, office, log dam on creek, trough line to breaker reservoir, and addition to feed pump house.

In Progress—Outside: Installing power plant; building power line from Pine Knot to Glendower.

Glendower Colliery.—Completed — Inside: Tunnel from South dip, Seven Foot vein, to South dip, Buck Mountain vein, second lift, West slope. Water level tunnel at Horse Shoe curve from Skidmore to Seven Foot vein.

In Progress—Inside: Sinking basin slope from second level to old workings. Driving water level tunnel north to Jugular basin at Richardson. Construction of travelingway in Seven Foot vein from lower lift to Glendower level.

Completed—Outside: Water trough from Glendower, West slope to Mt. Pleasant, and 8-inch column from first lift to surface.

Phoenix Park Colliery.—Completed—Inside: Tunnel north through saddle from west top Tracy vein gangway at breast No. 4 to No. 1 slope basin, Tracy vein. Tunnel from Tracy vein to Little Tracy vein.

East Diamond, fifth lift, fireproof stable; hospital in No. 6 slope.

In Progress—Inside: Sinking No. 6 Tracy slope. Sinking No. 1 underground slope. Fireproof stable in No. 6 Tracy slope. Peach Mountain fireproof pump room. Sinking No. 7 or tender slope, west of main hoisting slope. Sinking extension of No. 5 Peach Mountain slope and driving second lift landing, west side.

Completed—Outside: Landing and railroad from No. 6 slope to breaker.

John Veith Colliery. — In Progress — Inside: Construction of travelingway from No. 1 to No. 2 shaft in East Primrose vein.

Thomaston Colliery.—Completed—Inside: Stable in Lelar vein, third level, Lelar slope. Tapping anchor water in Lelar slope. Extension of Crosby slope from second level to third level. Two fireproof emergency pump rooms on Lelar slope.

LYTLE COAL COMPANY

Lytle Colliery.—Outside: No. 2 air shaft was sunk a distance of 176 yards. Laid tracks on concrete bridge over Pennsylvania Railroad, eliminating old trestle for dirt and rock bank. Installed three sets of 900-horsepower Vulcan return tubular boilers and one 300-kilowatt Ridgeway generator for inside haulage. Built brick emergency hospital. Ticket and headman house, concrete and crab engine house at head of shaft. Installed four jigs in breaker for buckwheat and stove coal. Built 15 mine cars.

Inside: Fourth level: Drove air tunnel to Four Foot from pump house for ventilation. Drove tunnel from Diamond to Leader to tap old Diamond workings.

Fifth level: Drove tunnel from West Skidmore to Black Heath, and rock airway, North dip, White Ash, to Holmes. No. 6 top member slope sunk 770 feet and turnouts made on first and second lifts.

Sixth level: Drove main tunnel north to South dip, Skidmore; main air tunnel north to South dip, Skidmore; No. 36 tunnel to Four Foot vein, 124 feet. Made rock turnout on main north tunnel from top to bottom member, 160 feet. Installed one 6 by 9 triplex electric pump, 250 gallons per minute, 240 foot lift, in rock pump room.

PINE HILL COAL COMPANY

Pine Hill Colliery.—Outside: Built 5,000-gallon water tank, 400 feet of 3-inch water line, a superintendent's dwelling, 40 by 50 feet, a garage 14 by 18 feet, carriage house 50 by 20 feet, ash hopper, elevators and plane.

Inside: Third level, sump and sump tunnel, third level, haulage tunnel 180 feet, air course, fourth level, to surface, 1,200 feet, fourth level, haulage tunnel 167 feet, slant tunnel in drift 213 feet. Installed 7½-ton motor.

OAK HILL COAL COMPANY

Oak Hill Colliery.—Installed one Mt. Carmel pump 30 by 12 by 36 inches, and 3 fans and fan engines. Built machine shop. Built 3 concrete hospitals inside, one in new slope, one in No. 1 drift and one in No. 2 drift, and one concrete stable on fourth level, one pump house in rock on fourth level, Primrose vein.

Drove air tunnel from Buck Mountain to Skidmore to take return air off gangway; drove air tunnel from Black Heath to Red Ash, third level, to take return air off gangway. Drove air tunnel, Black Heath south side of shaft, to Red Ash on north side, to take return air off gangway. Drove haulage tunnel from Red Ash to White Ash in new slope. Drove 1,400 foot fanway, third level, to surface. Drove airway from third level, shaft tunnel, to No. 15 breast in Red Ash to take return air off gangway.

BUCK RUN COAL COMPANY

Buck Run Colliery.—Built one two-story wash house, 18 by 20 feet, with hot and cold shower baths and 34 lockers. Installed one 330-horsepower Babcock and Wilcox boiler, one 550-volt, 275 kilowatt A. C. Curtis generator, one No. 11 Sirocco type fan of 50,000 cubic feet capacity, driven by 25 A. P. A. C. motor to ventilate the west side of the second and third levels.

Steam engine on Crosby fan replaced by an A. C. motor of 7½ horsepower.

Three inside pump rooms timbered and lagged with steel.

Installed one 400-gallon Aldrich triplex pump, electrically driven, on third level in new pump room in the solid rock.

Placed two 8-ton electric haulage motors in service.

The entire east side of the breaker was rebuilt and two new Christ jigs installed with new picking tables and chutes for prepared sizes.

One 12-ton locomotive was placed on rock bank and a new rock hopper and head frame built at the head of the breaker refuse plane.

One 8-inch bore hole was drilled west of the breaker to carry a 7-inch O. D. pipe delivering steam to the inside slope engines and third level steam pump. Also one 8-inch bore hole was cased and insulated to carry the 550-volt A. C. current wires to the new electric pump on the third level.

DARKWATER COAL COMPANY

New Castle Colliery.—Tender slope was sunk 170 feet from the second to the third level and gangways driven east and west in the Skidmore vein. Three tunnels were driven from three gangways to tap the Mammoth vein, and the water in the Mammoth vein was tapped by numerous bore holes and is now being drawn off.

Built pump room, 15 by 48 by 15 feet high in the Leader veins on the third level, timbered with heavy steel timber and lagged with steel rails. Installed a Scranton compound duplex pump, 16 by 32 by 14 by 48 inches with the necessary tail and column pipe for delivering the water to the second level.

A 12-inch bore hole was drilled from the surface to the second level and an 8-inch steam line placed in it to carry steam to the inside pump. A new 10-foot Guibal type fan, steam driven, was placed on the North dip, Skidmore vein.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Union Hall, Pottsville, March 25 and 26. The Board of Examiners was composed of Michael J. Brennan, Inspector, Pottsville; James B. Neale, Superintendent, Minersville; Timothy Brennan, Miner, Heckscherville; Henry Gottschall, Miner, Branchdale.

The following persons passed a satisfactory examination and were granted certificates:

MINE FOREMEN

Charles Wetzel, Branchdale; James E. Scott, John H. Parnell, Minersville.

ASSISTANT MINE FOREMEN

John Mulhall, Duncott; David Hinkin, James Patticher, Joseph A. Munster, Henry Parnell, William Truscott, William J. Mackey, Minersville; Thomas Quinn, Branchdale; Andrew McMenamin, John Schreffler, Pottsville; Daniel Holahan, Port Carbon; Joseph Harrison, John Parry, Frank Gittins, Henry Dress, Wade; John L. Krebs, St. Clair.

TWENTIETH DISTRICT

SCHUYLKILL AND DAUPHIN COUNTIES

Lykens, Pa., February 26, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines of the Twentieth Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

CHARLES J. PRICE,
Inspector.

SUMMARY OF STATISTICS

Number of collieries,	7
Number of mines,	27
Number of mines in operation,	24
Number of tons of coal shipped to market,	1,964,723
Number of tons used at mines for steam and heat,	415,814
Number of tons sold to local trade and used by employes,	36,378
Number of tons produced,	2,416,915
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	4,519
Number of persons employed outside,	1,526
Number of fatal accidents inside of mines,	33
Number of fatal accidents outside,	3
Number of non-fatal accidents inside of mines,	36
Number of non-fatal accidents outside,	2
Number of tons of coal produced per fatal accident inside,	73,240
Number of tons produced per fatal accident outside,	805,638
Number of tons produced per fatal accident inside and outside,	67,137
Number of persons employed per fatal accident inside,	137
Number of persons employed per fatal accident outside,	509
Number of persons employed per fatal accident inside and outside,	168
Number of persons employed per non-fatal accident inside,	126
Number of persons employed per non-fatal accident outside,	763
Number of persons employed per non-fatal accident inside and outside,	159
Number of wives made widows,	26
Number of children made orphans,	57
Number of steam locomotives used inside of mines,	....
Number of steam locomotives used outside,	17
Number of compressed air locomotives used inside,	....
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	22
Number of electric motors used outside,	5
Number of gasoline locomotives used inside,	2
Number of fans in use,	24
Number of furnaces in use,	....
Number of gaseous mines in operation,	23
Number of non-gaseous mines in operation,	1
Number of new mines opened,	....
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company,	1,181,401
Summit Branch Mining Company,	946,670
Lehigh Valley Coal Company,	288,844
Total,	2,416,915

Production by Counties

Schuylkill,	1,470,245
Dauphin,	946,670
Total,	2,416,915

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	25	2	27	16	......	16	47,256	73,837	2,355	624	2,979	94	312	147	622
Summit Branch Mining Co.,	5	......	5	17	1	18	189,334	55,686	1,687	763	2,450	337	763	99	763
Lehigh Valley Coal Co.,	3	1	4	3	1	4	96,281	96,281	477	139	616	159	139	159	139
Totals and averages for district,	33	3	36	36	2	38	73,240	67,137	4,519	1,526	6,045	137	509	126	763

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	1	....	....	....	....	....	....	....	....	....	....	....	1	3.03
Falls of slate, ...	....	....	1	....	....	1	....	....	1	....	....	....	3	9.09
Falls of roof, ...	....	....	....	....	....	....	....	....	....	....	1	....	1	3.03
Mine cars, ...	....	....	....	1	....	....	....	....	1	....	....	....	2	6.06
Explosions of gas, ...	....	1	....	....	....	1	....	20	....	....	....	....	22	66.67
Suffocation by gas, etc.	....	....	....	....	1	....	....	....	....	....	....	....	1	3.03
Falling into slopes, manways, etc., ...	....	2	....	....	....	1	....	....	....	....	....	....	3	9.09
Totals, ...	1	3	1	1	1	3	....	20	2	....	1	....	33	100.00
Causes of Accidents Outside														
Cars, ...	....	1	....	....	....	....	....	....	....	1	....	....	2	66.67
Machinery, ...	....	....	....	....	....	....	....	....	....	1	....	....	1	33.33
Totals, ...	....	1	....	....	....	....	....	....	....	2	....	....	3	100.00
Grand totals inside and outside, ...	1	4	1	1	1	3	....	20	2	2	1	....	36	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal, ...	....	....	....	....	....	....	....	2	....	1	2	1	[illegible]	17.14
Falls of slate, ...	1	1	1	....	1	1	2	....	....	....	....	....	7	20.00
Falls of roof, ...	....	....	....	....	1	2	....	....	....	....	....	....	3	8.57
Mine cars, ...	1	1	....	1	....	....	1	....	....	1	1	....	6	17.14
Explosions of gas, ...	....	1	....	....	1	....	....	....	....	....	....	1	3	8.57
Explosions of powder and dynamite, ...	....	....	....	....	....	1	....	....	....	....	....	....	1	2.86
Blasts, premature and otherwise, ...	....	1	....	....	....	....	....	....	....	....	1	....	2	5.71
Falling into slopes, etc.	....	1	1	....	1	....	....	....	....	....	....	....	3	8.57
Struck by piece of rock, ...	....	....	....	....	....	....	....	....	1	....	....	....	1	2.86
Cut by adz, ...	....	....	....	1	....	....	....	....	....	....	....	....	1	2.86
By falling, ...	....	....	....	....	....	1	....	....	....	....	....	....	1	2.86
Injured by rope, ...	....	....	....	....	....	....	....	1	....	....	....	....	1	2.86
Totals, ...	2	5	2	2	4	5	3	3	1	2	4	2	35	100.00
Causes of Accidents Outside														
Cars, ...	1	....	....	1	....	....	....	....	....	....	....	....	2	66.67
Injured by rope, ...	....	....	....	....	1	....	....	....	....	....	....	....	1	33.33
Totals, ...	1	....	....	1	1	....	....	....	....	....	....	....	3	100.00
Grand totals inside and outside, ...	3	5	2	3	5	5	3	3	1	2	4	2	38	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Mine foremen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Inside superintendents,	....	....	....	....	....	....	....	1	....	....	....	....	1
Fire bosses and assistants,	....	....	....	....	....	....	....	5	....	....	....	....	5
Miners,	1	3	1	....	....	3	....	2	....	....	....	....	10
Miners' laborers,	....	....	....	1	....	....	....	6	1	....	....	....	8
Drivers and runners,	....	....	....	....	....	....	....	1	....	....	....	....	1
Doorboys and helpers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Timbermen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Blacksmiths,	....	....	....	....	....	....	....	2	....	....	....	....	2
Repairmen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Starters,	....	....	....	....	1	....	....	....	....	....	....	....	1
Bottom men,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	1	3	1	1	1	3	....	20	2	....	1	....	33
Outside													
Jig runners,	....	....	....	....	....	....	....	....	....	1	....	....	1
Laborers,	....	1	....	....	....	....	....	....	....	1	....	....	2
Totals,	....	1	....	....	....	....	....	....	....	2	....	....	3
Grand totals inside and outside,	1	4	1	1	1	3	....	20	2	2	1	....	36

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	3	1	1	3	2	2	1	1	1	2	1	18
Miners' laborers,	1	1	1	1	....	3	....	....	....	....	1	1	9
Drivers and runners,	1	1	....	....	....	....	....	....	....	1	....	....	3
Doorboys and helpers,	....	....	....	....	....	....	....	1	....	....	....	....	1
Switchmen,	....	....	....	....	....	....	....	....	....	....	1	....	1
Loaders,	....	....	....	....	1	....	1	....	....	....	....	....	2
Timbermen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	2	5	2	2	4	5	3	3	1	2	4	2	35
Outside													
Laborers,	1	....	....	....	....	....	....	....	....	....	....	....	1
Conductors,	....	....	....	1	....	....	....	....	....	....	....	....	1
Breaker bosses,	....	....	....	....	1	....	....	....	....	....	....	....	1
Totals,	1	....	....	1	1	....	....	....	....	....	....	....	3
Grand totals inside and outside,	3	5	2	3	5	5	3	3	1	2	4	2	38

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	1	3	1	1	1	1	....	11	....	1	1	...	21
Irish,	....	1	....	....	....	....	....	....	....	....	....	....	1
Polish,	....	....	....	....	....	2	....	....	1	....	....	....	3
Hungarian,	....	....	....	....	....	....	....	....	....	1	....	....	1
Italian,	....	....	....	....	....	....	....	8	....	....	....	....	8
Slavonian,	....	....	....	....	....	....	....	....	1	....	....	....	1
Austrian,	....	....	....	....	....	....	....	1	....	....	....	....	1
Totals,	1	4	1	1	1	3	....	20	2	2	1	....	36

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	2	2	2	2	2	4	1	3	1	2	4	2	27
English,	....	1	....	....	1	....	....	....	....	....	....	....	2
Scotch,	....	1	....	....	....	....	....	....	....	....	....	....	1
Irish,	....	....	....	....	....	....	1	....	....	....	....	....	1
Polish,	....	....	....	1	....	1	....	....	....	....	....	....	2
Hungarian,	....	....	....	....	1	....	....	....	....	....	....	....	1
Austrian,	....	....	....	....	1	....	....	....	....	....	....	....	1
Russian,	1	1	....	....	....	....	1	....	....	....	....	....	3
Totals,	3	5	2	3	5	5	3	3	1	2	4	2	38

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Philadelphia and Reading Coal and Iron Co.																
Lincoln Colliery:																
Lincoln No. 1, ...	Slope,...	Gaseous, ..	Fan, ...	21	7	6	90	2.4	Guibal,	Steam,......		42	261,500	261,500	272,000	1,020
Lincoln No. 2, ...	Slope,...		Fan, ...	18	6	5.3	85	1.6		Steam,......						
Lincoln No. 2, Vein Trial,	Slope, ..		Fan, ...	12	4	4	80	.7		Electricity,.						
Lincoln Water Shaft, ...	Shaft,...		Fan, ...	19	7	6	90	2.4		Steam,......						
Brookside Colliery:																
Brookside No. 1, ...	Slope,...	Gaseous, ..	Fan, ...	18	6	5	95	1.5	Guibal, .	Steam,....	..	22	266,000	266,000	280,000	759
Brookside No. 4, ...	Slope,...		Fan, ...	18	6	5	80	.8								
Brookside, East, ...	Shaft,...		Fan, ...	21	7	6	75	1.1								
Brookside, Tender, ...	Slope,...		Fan, ...	14	4	5	100	1.4								
Good Spring Colliery:																
Good Spring No. 1, ...	Slope,...	Gaseous,	Fan, ...	18	6	5	95	.8	Guibal, .	Steam,....	..	19	172,000	172,000	177,000	576
Good Spring, Tender, ...			Fan, ...	15	4.5	5	85	1.1								
Good Spring No. 3, ...			2 Fans, ..	18 18	6 6	5 5	70 70	.9 .8								
Valley View Colliery:																
Valley View No. 1,*	Tunnel, ...	Gaseous, ..	Fan, ...	12	4	4	......	......	....	....	..	..	....	....	....	.....
Valley View No. 2,*	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	..	..	....	....	....	.....
Valley View No. 3,*	Drift, ...	Non-gas., .	Natural. ..	......	......	......	......	......	....	....	..	..	....	....	....	.....

---

*Idle.

Summit Branch **Mining** Co.															
Williamstown Colliery:															
Number 1,	Shaft, ...	Gaseous, ..	2 Fans, .	25	8	7	60	2.2	Guibal, .	Steam, ...	..	26	169,300	169,300	173,600	705
				10	3	3	70	.8								
Number 2,	Shaft, ...		Fan, ...	25	8	7	60	1.8								
Number 3,	Slope, ...		Fan, ...	14	4	4	62	1.4								
Bear Valley Slope,	Slope, ...		Fan, ...	25	8	7	60	1.4								
Big Lick,	Slope. ...		Fan, ...	14	4	4	75	.9								
Short Mountain Colliery:																
Short Mountain,	Slope, ...	Gaseous, ..	Fan, ...	25	8	7	60	1.2	Guibal,	Steam, ...		27	196,800	196,800	216,000	982
Lykens Valley,	Slope, ...		Fan, ...	16	4	4	100	.9		Steam, ...						
Underground No. 4,	Slope, ...		Fan, ...	25	8	7	60	1.4		Steam, ...						
Bear Gap,	Tunnel, .		Fan, ...	10	2.5	2.5	70	.7		Electricity, .						
Drift No. 1,	Drift, ...		Natural,	......	......	......	......	......	....	....	..	..	....	....	....	......
Lehigh Valley Coal Co.																
Blackwood Colliery:																
Blackwood,	Tunnel, ...	Gaseous, ..	Fan, ...	20	6	5.5	80	1.3	Guibal, ..	Steam, ...		36	140,000	140,000	146,000	477
Number 4,	Tunnel, ...	Gaseous, ..														
Dundass,	Tunnel, ...	Gaseous, ..	Fan, ...	12	4	3	90	.8	Guibal, ..	Oil, ...						

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.						
Lincoln,	Schuylkill,	W. J. Richards, Vice President and General Manager.	Pottsville,	Reese Tasker, Mining Supt. E. E. Kaercher, Div. Supt. R. J. Schneider, Inside Supt. J. H. Lee, Outside Supt.	Pottsville, Tremont, Tremont,	Philadelphia and Reading
Good Spring,						
Brookside,						
Valley View,						
Rausch Creek Washery,						
Middle Creek Washery,						
Summit Branch Mining Co.						
Williamstown,	Dauphin,	R. A. Quin, General Manager.	Wilkes-Barre,	William Auman, Outside Supt. M. J. Readdy, Inside Supt.	Lykens,	Pennsylvania
Short Mountain,						
Short Mountain Washery,						
Williamstown Washery,						
Lehigh Valley Coal Co.						
Blackwood,	Schuylkill,	Thomas Thomas,	Wilkes-Barre,	Thomas R. Jones,	Mahanoy City,	Lehigh Valley

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Philadelphia and Reading Coal and Iron Co.													
Lincoln,	Schuylkill,	438,201	83,459	6,329	527,989	269	1,241	2	10	135,975	63,732	28,100	126
Good Spring,		275,374	57,428	7,544	340,346	268	748	3	2	375	137,754	36,582	82
Brookside,		274,449	38,387	46	312,882	250	979	22	4	26,375	67,751	14,063	103
Valley View,		....	....	179	179	......	3	......	......	....	1,110	425	......
		988,024	179,274	14,098	1,181,396	......	2,971	27	16	162,725	270,347	79,170	311
Washeries													
Rausch Creek,	Schuylkill,	....	....	....	....	......	3	......	......	....	....	....	......
Middle Creek,		....	....	5	5	......	5	......	......	....	....	....	......
		....	....	5	5	......	8	......	......	....	....	....	......
Totals,	....	988,024	179,274	14,103	1,181,401	......	2,979	27	16	162,725	270,347	79,170	311
Summit Branch Mining Co.													
Williamstown,	Dauphin,	308,226	65,228	6,180	379,634	271	1,073	4	12	25,050	103,689	97,678	104
Short Mountain		294,901	62,889	14,585	372,375	276	1,311	1	6	108,350	99,564	528	120
		603,127	128,117	20,765	752,009	......	2,384	5	18	133,400	203,253	98,206	224

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Washeries													
Short Mountain,	Dauphin, ...	67,786	11,822	76	79,684	353	33	......	......	....	....	....	.....
Williamstown,		40,604	74,334	39	114,977	*489	33	......	......	....	....	....	.....
		108,390	86,156	115	194,661	......	66	......	......	....	....	....	.....
Totals,		711,517	214,273	20,880	946,670	......	2,450	5	18	133,400	203,253	98,206	224
Lehigh Valley Coal Co.													
Blackwood,	Schuylkill, ...	265,182	22,267	1,395	288,844	266	616	4	4	400	113,470	65,950	19
Grand totals,	....	1,964,723	415,814	36,378	2,416,915	......	6,045	36	38	296,525	587,070	243,326	554

*Day and night.

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	......	......	72	9,000	9,000	8	......	10	117	22,536	9	18,988	4,750	4	5
Summit Branch Mining Co.,	Dauphin,	7	950	92	11,175	12,125	6	......	11	145	13,927	9	14,680	4,851	5	7
Lehigh Valley Coal Co.,	Schuylkill.	......	......	10	1,500	1,500	3	*2	6	13	2,965	......	......	......	1	2
Totals,		7	950	174	21,675	22,625	17	2	27	275	39,428	18	33,668	9,601	10	14

*Gasoline.

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Philadelphia and Reading Coal and Iron Co., ...	Schuylkill, ..	5	49	....	583	269	136	42	4	492	775	2,355	.....	10	28	112	52	9	14	399	624	2,979
Summit Branch Mining Co., ..	Dauphin, ...	3	8	24	578	160	160	15	36	4	699	1,687	1	3	64	150	84	....	13	448	763	2,450
Lehigh Valley Coal Co., ...	Schuylkill, ..	3	8	....	249	88	7	6	2	50	64	477	1	1	10	18	9	2	4	94	139	616
Totals, ...	....	11	65	24	1,410	517	303	63	42	546	1,538	4,519	2	14	102	280	145	11	31	941	1,526	6,045

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	22	22	21	24	25	24	19	16	18	26	23	22	262
Summit Branch Mining Co.,	Dauphin,	22	23	22	25	23	24	18	22	24	26	22	24	275
Lehigh Valley Coal Co.,	Schuylkill,	25	23	15	25	24	25	20	19	21	25	23	21	266

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	4	Louis Knauber, ...	American,...	Miner, ...	35	W.	....	1	Williamstown,	Dauphin, ...	Fatally injured by fall of timber and coal in heading while cutting out a set of timber.
Feb.	4	Henry Moyer, ...	American,...	Laborer, ...	60	M.	1	....	Lincoln, ...	Schuylkill, ...	Fatally injured by having his right leg crushed between mine cars at breaker. Outside.
	8	Dennis Conway, ...	Irish, ...	Miner, ...	48	M.	1	3	Good Spring,..	Schuylkill, ...	Instantly killed by falling down manway of breast when water broke through from level above.
	19	George Reedy, ...	American,...	Miner, ...	45	S.	....	....	Good Spring,..	Schuylkill, ...	Fatally injured by falling down manway of breast.
		George Haskins, ...	American,...	Miner, ...	40	M.	1	4	Williamstown,	Dauphin, ...	Fatally injured by explosion of gas ignited by a shot when starting a run above heading.
March	19	Charles C. Reigel, ...	American,...	Miner, ...	36	M.	1	4	Short Mountain	Dauphin, ...	Fatally injured by fall of slate on gangway when car knocked out prop.
April	18	Howard Boyer, ...	American,...	Laborer, ...	23	S.	....	....	Brookside, ...	Schuylkill, ...	Fatally injured by falling under rock car on gangway.
May	17	George Starr, ...	American,...	Starter, ...	31	M.	1	3	Blackwood, ...	Schuylkill, ...	Instantly killed by being smothered in chute, into which he fell while starting battery at heading.
June	16	George Shomper, ...	American,...	Miner, ...	37	M.	1	....	Brookside, ...	Schuylkill, ...	Fatally injured by fall of slate and clod at face of his working place.
	20	Felix Hadock, ...	Polish, ...	Miner, ...	51	M.	1	....	Williamstown,	Dauphin, ...	Instantly killed by falling down manway of breast.
		Charles Borinskey, ...	Polish, ...	Miner, ...	27	M.	1	2	Williamstown,	Dauphin, ...	Found dead in third breast heading. He was slightly burned by gas, but it is thought he died from heart failure, as the burns were slight.

Aug.	2	John Lorenz,	American,	Inside superintendent.	60	M.	1	1	East Brookside	Schuylkill,	Fatally injured by an explosion of gas.
		H. W. Schoffstall,	American,	Fire boss,	26	M.	1	2			Fatally injured by an explosion of gas.
		John Farrel,	American,	Foreman,	48	M.	1	7			Instantly killed by an explosion of gas.
		Daniel Farley,	American,	Fire boss,	42	M.	1	4			Instantly killed by an explosion of gas.
		John Fessler,	American,	Fire boss,	43	M.	1	2			Instantly killed by an explosion of gas.
		Henry Murphy,	American,	Fire boss,	51	M.	1	1			Instantly killed by an explosion of gas.
		Daniel McGinley,	American,	Fire boss,	46	M.	1	4			Instantly killed by an explosion of gas.
		Harry Hand, Sr.,	American,	Driver,	24	M.	1	3			Instantly killed by an explosion of gas.
		Howard Hand,	American,	Laborer,	20	S.	....	....			Instantly killed by an explosion of gas.
		Thomas Behney,	American,	Miner,	29	M.	1	1			Instantly killed by an explosion of gas.
		Jacob Koppenhaver,	American,	Bottom man,	27	M.	1	1			Instantly killed by an explosion of gas.
		Victor Zanoni,	Italian,	Blacksmith,	31	M.	1	2			Instantly killed by an explosion of gas.
		Egidis Lucchi,	Italian,	Blacksmith,	22	S.	....	....			Instantly killed by an explosion of gas.
		Ricardo Federizzi,	Italian,	Laborer,	31	M.	1	5			Instantly killed by an explosion of gas.
		Antones Oposici,	Italian,	Laborer,	21	S.	....	....			Instantly killed by an explosion of gas.
		Nicola DiPaslo,	Italian,	Laborer,	30	M.	1	....			Instantly killed by an explosion of gas.
		Nick Fandoupe,	Italian,	Laborer,	26	M.	1	....			Instantly killed by an explosion of gas.
		Carmine Decampion,	Italian,	Miner,	27	M.	1	2			Instantly killed by an explosion of gas.
		Joseph Grazians,	Italian,	Laborer,	26	M.	1	....			Instantly killed by an explosion of gas.
		Alexander Leshnoc,	Austrian,	Repairman,	37	M.	1	3			Instantly killed by an explosion of gas.
Sept.	26	Paul Varconi,	Slavonian,	Laborer,	32	M.	1	2	Blackwood,	Schuylkill,	Fatally injured by fall of slate at face of gangway.
	29	Mike Pulushick,	Polish,	Motor helper,	21	S.	....	....	Blackwood,	Schuylkill,	Fatally injured by being squeezed between mine car and door on gangway.
Oct.	1	Steve Margin,	Hungarian,	Laborer,	31	S.	....	....	Blackwood,	Schuylkill,	Fatally injured by being run over by railroad car under breaker. Outside.
	22	John Boyer,	American,	Jig runner,	16	S.	....	....	Good Spring,	Schuylkill,	Instantly killed by being caught in machinery of jig he was cleaning in breaker. Outside.
Nov.	21	Harry Gloler,	American,	Timberman,	34	S.	....	....	Lincoln,	Schuylkill,	Fatally injured by fall of rock in buggy gangway.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	8	Harry Strauga,	Russian,	Laborer,	26	S.	Short Mountain,	Dauphin,	Head and back cut and bruised between mine car and post at breaker. Outside.
	15	Oscar Richter,	American,	Driver,	18	S.	Good Spring,	Schuylkill,	Foot crushed by mine car running over it near bottom of slope.
	30	D. Swanger,	American,	Laborer,	30	S.	Lincoln,	Schuylkill,	Right leg fractured by fall of slate while robbing pillars.
Feb.	5	Thomas Fiddler,	American,	Driver,	21	S.	Lincoln,	Schuylkill,	Arm broken and hip dislocated by falling under mine car near bottom of slope.
	8	John Pritchard,	American,	Miner,	38	M.	Good Spring,	Schuylkill,	Shoulder dislocated, body badly bruised and hurt internally by falling down manway of breast.
	17	Alexander Schepesock,	Russian,	Laborer,	21	S.	Short Mountain,	Dauphin,	Fore part of foot crushed by fall of slate from high side on gangway.
	19	John McKelvy,	Scotch,	Miner,	41	M.	Williamstown,	Dauphin,	Hands and face burned and body badly bruised by explosion of gas in run they were starting.
	21	Richard Whitcomb,	English,	Miner,	42	M.	Williamstown,	Dauphin,	Right hand blown off by premature explosion of shot of dynamite while starting a run.
March	12	Clarence Portzline,	American,	Laborer,	19	S.	Short Mountain,	Dauphin,	Left ankle fractured and body bruised by fall of slate while robbing pillars.
	13	Charles Burnes,	American,	Miner,	31	M.	Williamstown,	Dauphin,	Head, shoulder and body badly cut and bruised by falling down manway of breast.
April	10	Stiney Walulsk,	Polish,	Miner,	29	M.	Blackwood,	Schuylkill,	Leg cut above the knee when ax slipped while splitting a plank on gangway.
	12	William I. Dressel,	American,	Conductor,	19	S.	Short Mountain,	Dauphin,	Right arm crushed above elbow by being caught between mine car and locomotive at breaker. Outside.
	25	Womie Rhine,	American,	Laborer,	23	S.	Lincoln,	Schuylkill,	Collar bone fractured by being caught between mine car and prop at bottom of slope.
May	6	Albert B. Zsutch,	Hungarian,	Miner,	27	M.	Williamstown,	Dauphin,	Hands and face burned by explosion of gas at face of breast heading he was driving.

May	9	Joshua Fessler, ...	American,...	Loader, ...	30	M.	Lincoln, ...	Schuylkill, ...	Right leg fractured by falling down chute.
	21	William Fetterman, ..	American,...	Breaker boss, ...	31	M.	Blackwood, ...	Schuylkill, ...	Left foot broken by rope at breaker. Outside.
	24	Joseph Dixon, ...	English, ...	Miner, ...	43	M.	Blackwood, ...	Schuylkill, ...	Seriously injured by fall of rock at face of breast.
		Paul Sminsky, ...	Austrian, ...	Miner, ...	34	M.	Blackwood, ...	Schuylkill, ...	Back injured and rib broken by falling down chute.
June	4	Harry S. Bowers, ...	American,...	Laborer, ...	19	S.	Lincoln, ...	Schuylkill, ...	Left leg fractured above knee by fall of slate at face of pillar.
	11	Robert Reiner, ...	American,...	Miner, ...	35	M.	Brookside, ...	Schuylkill, ...	Seriously injured by explosion of dynamite in traveling way.
	18	F. Zygonslispil, ...	Polish, ...	Miner, ...	25	M.	Williamstown, ...	Dauphin, ...	Rupture of uretha by falling on cross bar of mine car.
	28	Arthur Moffat, ...	American,...	Laborer, ...	21	S.	Williamstown, ...	Dauphin, ...	Left leg broken by fall of rock at face of gangway.
		Robert Baird, ...	American,...	Laborer, ...	24	S.	Williamstown, ...	Dauphin, ...	Arm broken and body badly bruised by fall of rock at face of gangway.
July	16	Peter Wargo, ...	Russian, ...	Loader, ...	19	S.	Williamstown, ...	Dauphin, ...	Right leg bruised and two small bones broken between mine car and rib on gangway.
	21	Roger Mahon, ...	Irish, ...	Miner, ...	50	M.	Brookside, ...	Schuylkill, ...	Internally injured by fall of slate at face of pillar.
	23	William Potts, ...	American,...	Miner, ...	44	M.	Lincoln, ...	Schuylkill, ...	Left leg fractured by fall of slate at face of pillar.
Aug.	2	George Drum, ...	American,...	Timberman, ...	43	M.	Williamstown, ...	Dauphin, ...	Pelvic bone broken and badly squeezed by fall of coal on gangway.
	11	Fred Klinger, ...	American,...	Driver, ...	20	S.	Lincoln, ...	Schuylkill, ...	Internally injured and body badly bruised by hoisting rope throwing him against top when he stepped over it.
	27	Harry Koch, ...	American,...	Miner, ...	44	M.	Short Mountain, ...	Dauphin, ...	Internally injured and badly bruised by fall of coal in heading of breast.
Sept.	18	R. F. Nunemacher, ...	American,...	Miner, ...	48	M.	Brookside, ...	Schuylkill, ...	Right leg fractured by piece of rock that rolled down chute and struck him while loading car.
Oct.	3	Gurney Hand, ...	American,...	Driver, ...	23	S.	Williamstown, ...	Dauphin, ...	Right arm broken at wrist by mine cars on gangway.
	7	Lewis Fromme, ...	American,...	Miner, ...	33	M.	Williamstown, ...	Dauphin, ...	Injured across back by fall of coal at face of breast.
Nov.	3	Charles Unbenhaur, ..	American,...	Miner, ...	27	M.	Lincoln, ...	Schuylkill, ...	Leg fractured by fall of coal while robbing pillars.
	15	Daniel Dreibelbies, ...	American,...	Miner, ...	37	S.	Short Mountain, ...	Dauphin, ...	Left clavicle fractured by fall of coal at face of breast.
	18	Harry Sattizhan, ...	American,...	Switch man, ...	24	M.	Lincoln, ...	Schuylkill, ...	Skull fractured between mine cars on turnout.
	21	Ells Underkoffer, ...	American,...	Laborer, ...	27	S.	Brookside, ...	Schuylkill, ...	Head, arm and side cut and bruised by premature shot while starting battery.
Dec.	5	George S. Challangher,	American,...	Miner, ...	28	S.	Williamstown, ...	Dauphin, ...	Slightly burned about hands and face by explosion of gas at face of breast.
		James Gibson, ...	American,...	Laborer, ...	23	S.	Lincoln, ...	Schuylkill, ...	Pelvis injured by fall of coal at face of working place.

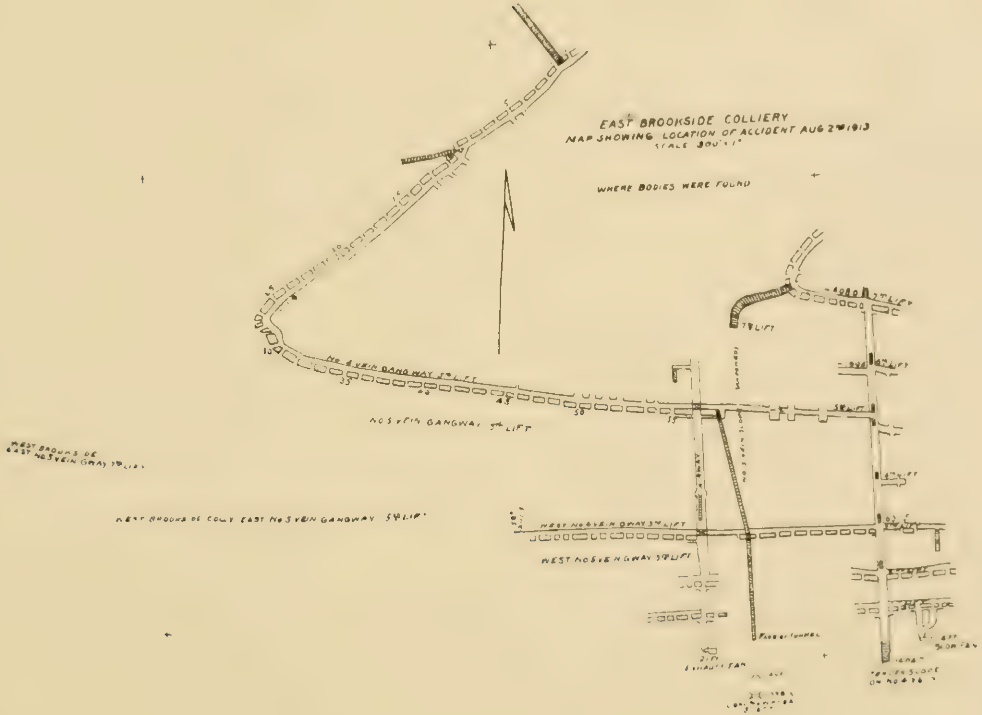
EXPLOSION AT EAST BROOKSIDE COLLIERY

On Saturday, August 2, a disastrous explosion occurred at East Brookside Colliery, by which twenty lives were lost.

When I reached the scene of the accident I was informed that two explosions had taken place. The inside superintendent, mine foreman and a number of assistant foremen and fire bosses were reported to be inside. On going down to the fifth lift of the tender slope and walking west, we found several dead bodies at the mouth of the tunnel that was being driven south to the shaft. Outside Superintendent Lee was in charge of the work of removing the bodies to the surface. With Charles Fegley, a miner, I started to look for the superintendent and foreman. After traveling west in the No. 4 seam to No. 2 tunnel, we turned in to the No. 5 seam and walked east to breast No. 60, where we found Mr. Lorenz, his clothes torn to shreds, but still conscious. We carried him back to a turnout at breast No. 45 and sent for help and he was carried to the surface. We then went inside to find the foreman. The air being foul at No. 63 chute, two men equipped with Draeger helmets went in and found the foreman lying dead at chute No. 65. He was placed on a stretcher and removed to the surface. We then returned to the tunnel near the slope, and as the air compressor was going at full speed we were enabled to go directly into the tunnel, where we found the seven tunnel men lying dead along the road. They were removed to the surface, and the check list showed that all men were accounted for but Fire Bosses Farley and Fessler. Inspectors Brennan and Curran joined me at 8 P. M. and we started to search for the missing men. It was found that No. 5 seam gangway west of the tunnel was closed to No. 72½ chute, and we decided that the men must be under the fall, although the entire mine was searched in the hope that they might be found. Work to reopen the gangway from the tunnel was begun immediately, and also to clean up to the cave on the west side to the airway. After securing the airway, it was decided to push all work from the tunnel, believing that the 175 pounds of dynamite that the tunnel men had taken in the day previous had exploded and that Farley and Fessler would be found near that spot. Inspectors Fenton and Lamb came to the mine Sunday and fully approved of the work being done, and on Monday Charles Enzian, mining engineer of the U. S. Bureau of Mines, arrived, and after a careful investigation decided that the dynamite had exploded; but on Sunday morning, August 10, we uncovered the dynamite box and found it intact. Inspector Brennan returned that evening and the next day we decided to have the gas removed that had gathered on the west side, and examine the headings and places there. We had personal charge of this work and by evening everything was clear and examined, but nothing could be found.

On Friday morning, August 15, about 3 A. M., the body of Farley was found, and at 10.30 that night the body of Fessler.

Cause of the disaster: At No. 74 chute the timber lay straight across the gangway at right angles to it, showing that the force started from that point. West of that point the timber slanted west, and similarly to the east. Farley and Fessler had evidently been sitting on the boxes west of the tunnel, waiting for Lorenz and Farrel, whom they



EAST BROOKSIDE COLLIERY
MAP SHOWING LOCATION OF ACCIDENT AUG 2nd 1913
SCALE 300' = 1"

WHERE BODIES WERE FOUND
No 4 VEIN GANGWAY 5th LIFT
No 5 VEIN GANGWAY 5th LIFT
10
15
35
40
45
50
55
7th LIFT
6th LIFT
5th LIFT
4th LIFT
WEST No 4 VEIN GWAY 3rd LIFT
WEST No 5 VEIN GWAY 3rd LIFT
No 5 VEIN SLOPE
WEST BROOKSIDE EAST No 5 VEIN GWAY 3rd LIFT
WEST BROOKSIDE COLLY EAST No 5 VEIN GANGWAY 5th LIFT
FACE of TUNNEL
EXHAUST FAN
ON No 4 VEIN

knew were coming out that way, when they heard some disturbance and ran in to see what it was. At that moment the stump pillar at the corner of No. 74 chute gave way, and there was an outburst of gas that closed the gangway and checked the air currents, breaking the air connections as an explosion would have done. The man at the bottom of the slope thought there had been an explosion and telephoned to the surface. Fire Bosses Murphy, McGinley and Schoffstall organized a party of nine and went down to investigate. Just as they reached the mouth of the tunnel, the men working in the tunnel arrived at the point where the gas had receded from the fall, the gas was ignited and exploded with terrific violence, killing the nine rescuers and the seven tunnel men, and passing out through the headings on the west side killed Farrel and injured Lorenz so badly that he died that night. Farley and Fessler were caught in the first fall and instantly killed The recovering of these bodies was extremely dangerous, as the seam pitches 70 degrees.

An inquest was held by Coroner Moore and the following verdict given: "We find that the men came to their death as the result of an explosion of gas in Farley's district, and from the evidence we fail to find that it was caused by negligence of the company or contributory negligence on the part of anyone else."

CONDITION OF COLLIERIES

PHILADELPHIA AND READING COAL AND IRON COMPANY

Lincoln, Good Spring and Brookside Collieries. — Ventilation, drainage and condition as to safety good.

SUMMIT BRANCH MINING COMPANY

Williamstown and Short Mountain Collieries.—Ventilation and condition as to safety good; drainage fair.

LEHIGH VALLEY COAL COMPANY

Blackwood Colliery.—Ventilation, drainage and condition as to safety good.

IMPROVEMENTS

PHILADELPHIA AND READING COAL AND IRON COMPANY

Lincoln Colliery.—An inside slope was sunk 75 feet on the Lykens Valley No. 2 vein from the sixth lift, east gangway.

An electric hoist was installed at No. 2 vein slope, which is being sunk to the eighth lift.

Electric haulage was extended on seventh and eighth lift gangways and on the West No. 5 vein, sixth lift gangway, to breast No. 215.

A new frame office, check-off house and lamp house were erected.

An extension was built to the shops and a Snyder drill press and a Boye lathe installed. Two automatic steam dumps were installed at breaker.

Electric lights were installed in the houses and on the streets of the town.

Good Spring Colliery.—A tunnel 288 feet was driven at No. 1 slope, second lift, from Holmes to Orchard vein.

A tunnel is being driven on the third lift from a point opposite breast No. 50, East Mammoth vein gangway, to the Orchard vein, and has been completed a distance of 113 feet. A tunnel is being driven south at breast No. 83 on same gangway, and has been completed a distance of 429 feet.

Installed electric lights in the dwelling houses and on the streets. Built a powder magazine; remodeled shop and installed therein Boye lathe and a Snyder drill press.

Laid a six-inch wooden water line, 2,900 feet long, from the upper dam to the houses for water supply.

Brookside Colliery.—East Section: Tunnel driven 935 feet on fifth level from the No. 4 vein to shaft.

Air tunnel driven 111 feet on fifth level, main heading, between No. 4 vein and No. 5 vein.

Traveling roadway driven on No. 4 vein from the top of No. 3 plane to No. 4 plane level, a distance of 800 feet.

West Section: The west breaker is being rebuilt and is now almost completed, containing all the latest appliances for the preparation of the output of the colliery. When completed, the old east breaker will be abandoned.

The loading tracks under the breaker have been laid in cement and paved with brick.

The main track at breaker has been moved south 50 feet from new breaker and an intermediate track laid for unloading coal.

A new system of tracks is being laid to handle the coal at breaker tip with a 12-inch pusher and barney.

A new frame blacksmith and carpenter shop, with a concrete base, has been erected and equipped with lathes, drill press, pipe cutter, steam hammer and saws.

Valley View Colliery.—A 40-inch gauge railroad, 50-pound rails, two and nine-tenths miles long, has been completed from Good Spring Colliery to the top of new double track plane, which is being graded and track laid to take coal from Valley View tunnel to Good Spring colliery.

SUMMIT BRANCH MINING COMPANY

Williamstown Colliery.—Built 77 mine cars and buggies, a water tank at breaker, a steam dump at breaker, hospital at No. 1 shaft counter, and enlarged fireproof stable at No. 2 shaft counter.

Installed air compressor at No. 2 shaft, a fire alarm system, additional battery of boilers at Big Lick, new fan at Bear Valley, electric lines at No. 1 shaft.

A new electric power plant was erected at Bear Valley.

A 6-inch water hole was sunk from counter to bottom of No. 2 shaft, also an air shaft at Bear Valley slope.

The following air tunnels were driven: East Lykens to East White's vein, No. 2 shaft and to Little vein, No. 2 shaft; White's vein to Lykens vein, No. 2 shaft; West Lykens vein to West Little vein; East Little to East Lykens vein, No. 2 shaft; top turnout to No. 2 shaft bottom, West Little to West Lykens vein, No. 2 shaft; Little vein to Red Shale, No. 2 shaft bottom; Big Lick slope to White Ash measures; top of plane to No. 9 vein, No. 2 shaft counter; East No. 9½ vein to No. 11 vein bottom of Bear Valley slope and West No. 11 vein, No. 1 shaft, South tunnel; to car hoist No. 2 shaft counter, North tunnel.

Airways and tunnels: West Lykens vein, No. 2 shaft, Summit slope, to No. 1 shaft; South tunnel to No. 2 shaft, No. 9 vein; West No. 9 to No. 9½ vein, No. 2 shaft. North tunnel; South tunnel to No. 1 shaft; to South tunnel No. 9½ vein, No. 2 shaft; No. 1 shaft, South tunnel, No. 9½ vein; White Ash airway, Big Lick slope. A rock plane at No. 2 shaft, and Trial slope at Zero vein.

Short Mountain Colliery.—No. 2 breaker completed. Built 162 new mine cars and buggies, also fireproof stables at No. 3 counter, White's vein, No. 3 West, old No. 1 counter, Lykens Valley slope and White ash.

A four-compartment shaft is now being sunk, which, when completed, will be 1,650 feet deep.

Steel timber was used in No. 4 level, No. 4 slope. Additional battery of boilers was installed.

Airways were driven at No. 2 gate, No. 7 counter, White's vein; airway and waterway for Basin slope, No. 4 extension; air tunnel at No. 4 slope; air slope and fan at east side and to rock gangway; airway at No. 4 level, Big vein, West No. 4 slope and White's vein, West old No. 1 level.

A motor route was extended to White's vein, West old No. 1 level.

A turnout was made at top of White's vein basin slope, No. 4 extension. A pump room was put in White Ash.

A new plane was sunk at No. 2 counter, White's vein, No. 3 West and at White's vein east, old No. 1 level.

Slopes were sunk at White's vein basin, No. 4 extension, No. 4 slope, and trial slope in Big vein, East Bear Gap slope.

Tunnels were driven as follows: Bear Gap slope No. 6½ counter, Little vein No. 3 West; No. 2 counter, White's vein, No. 3 West; No. 2 counter, White's vein, No. 1 level; at Pat Martin White ash; White's vein to Big vein, No. 4 slope; East White Ash gangway; East Bear Gap gangway; No. 7 counter, No. 4 slope. Also four tunnels to meet the new shaft: Old No. 1 level, No. 3 level, No. 4 level, No. 4 slope, No. 7 counter, No. 4 slope.

LEHIGH VALLEY COAL COMPANY

Blackwood Colliery.—Blackwood slope was sunk 79 feet and a slope to second level, Tracy vein, Blackwood tunnel, 464 feet.

Installed fan and engine to ventilate the shaft.

Installed an 8-ton electric locomotive in Blackwood tunnel, and a new 11-ton gasoline locomotive in Dundass tunnel.

Built frame boiler house and engine house.

Installed new boiler and 50-ton gasoline hoist at proving slope, and placed new air compressor in service.

Built two new fireproof houses for use of gasoline locomotives at Dundass tunnel.

A proving slope was sunk 320 feet on Black mine vein, south dip, east of Blackwood colliery.

A tunnel through Sharp mountain for the purpose of procuring a fresh water supply was completed, and 390 feet driven in tunnel from Tracy to Skidmore veins on East side of Blackwood tunnel.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Union Hall, Pottsville, March 25 and 26, and at Lykens, April 9. The Board of Examiners was composed of Charles J. Price, Mine Inspector, Lykens; William Auman, Superintendent, Lykens; William King, Miner, Tower City, and Samuel Evans, Miner, Minersville.

The following persons passed a satisfactory examination and were granted certificates.

MINE FOREMEN

Edward F. Lawler, Adam H. Davis, Good Spring; John Heck, Joliett.

ASSISTANT MINE FOREMEN

Harper H. Brown, Joliett; Henry F. Wertz, Samuel J. Kocher, Peoples; Calvin M. Lutz, Pine Grove; Morris A. Zimmerman, Aaron Stechler, Blackwood; James A. Lyons, Donaldson; Harry W. Shoffstall, Orwin; James C. Miller, Robert C. Davis, James Shuttlesworth, Williamstown; Thomas Smith, Tremont.

TWENTY-FIRST DISTRICT

LACKAWANNA, SULLIVAN, SUSQUEHANNA AND WAYNE COUNTIES

Forest City, Pa., February 24, 1914.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines of the Twenty-first Anthracite District for the year ending December 31, 1913.

Respectfully submitted,

BENJAMIN MAXEY,
Inspector.

SUMMARY OF STATISTICS

Number of collieries,	16
Number of mines,	34
Number of mines in operation,	34
Number of tons of coal shipped to market,	2,778,122
Number of tons used at mines for steam and heat,	312,802
Number of tons sold to local trade and used by employes,	54,938
Number of tons produced,	3,145,862
Number of tons produced by compressed air machines,	....
Number of tons produced by electrical machines,	....
Number of persons employed inside of mines,	5,341
Number of persons employed outside,	2,059
Number of fatal accidents inside of mines,	16
Number of fatal accidents outside,	6
Number of non-fatal accidents inside of mines,	61
Number of non-fatal accidents outside,	7
Number of tons of coal produced per fatal accident inside,	196,616
Number of tons produced per fatal accident outside,	524,310
Number of tons produced per fatal accident inside and outside,	142,994
Number of persons employed per fatal accident inside,	334
Number of persons employed per fatal accident outside,	343
Number of persons employed per fatal accident inside and outside,	336
Number of persons employed per non-fatal accident inside,	88
Number of persons employed per non-fatal accident outside,	294
Number of persons employed per non-fatal accident inside and outside,	109
Number of wives made widows,	11
Number of children made orphans,	31
Number of steam locomotives used inside of mines,	2
Number of steam locomotives used outside,	23
Number of compressed air locomotives used inside,	....
Number of compressed air locomotives used outside,	....
Number of electric motors used inside,	41
Number of electric motors used outside,	....
Number of fans in use.	29
Number of furnaces in use,	....
Number of gaseous mines in operation,	4
Number of non-gaseous mines in operation,	30
Number of new mines opened.	....
Number of old mines abandoned,	....

TABLE A

PRODUCTION OF COAL

Names of Operators	Tons
Hillside Coal and Iron Company,	523,411
Hudson Coal Company,	410,511
Scranton Coal Company,	365,650
Lackawanna Coal Company, Limited,	343,609
Connell Anthracite Mining Company,	331,809
Mt. Jessup Coal Company, Limited,	307,184
Moosic Mountain Coal Company,	251,206
Northwest Coal Company,	187,787
Northern Anthracite Coal Company,	169,798
Dolph Coal Company, Limited,	113,214
O'Boyle-Foy Anthracite Coal Company,	84,453
Carbondale Coal Mining Company,	31,672
Noble-Williams Coal Company,	10,227
Clinton Falls Coal Company,	6,868
Wachna-Taylor Anthracite Coal Company,	6,853
Sacandaga Coal Company,	1,610
Total,	3,145,862

Production by Counties

Lackawanna,	1,974,754
Sullivan,	592,913
Susquehanna,	531,039
Wayne,	47,156
Total,	3,145,862

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employes inside	Number of employes outside	Total number of employes	Number of employes inside per fatal accident	Number of employes outside per fatal accident	Number of employes inside per non-fatal accident	Number of employes outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Hillside Coal and Iron Co.,	2	......	2	10	2	12	261,706	52,341	1,096	324	1,420	548	....	110	162
Hudson Coal Co.,	1	......	1	17	......	17	410,511	24,148	617	174	791	617	....	36	....
Scranton Coal Co.,	2	......	2	4	......	4	182,825	91,413	618	382	1,000	309	....	154	....
Lackawanna Coal Co., Ltd.,	3	......	3	10	......	10	114,536	34,361	679	174	853	226	....	68	....
Connell Anthracite Mining Co.,	......	......	......	1	......	1	....	331,809	330	140	470	....	....	330	....
Mt. Jessup Coal Co., Ltd.,	1	1	2	6	1	7	307,184	51,197	511	296	807	511	296	85	296
Moosic Mountain Coal Co.,	2	2	4	4	1	5	125,603	62,801	407	80	487	204	40	102	80
Northwest Coal Co.,	1	2	3	5	1	6	187,787	37,557	268	89	357	268	45	54	89
Northern Anthracite Coal Co.,	1	1	2	......	......	......	169,798	....	193	101	294	193	101	....	....
Dolph Coal Co., Ltd.,	2	......	2	3	1	4	56,607	37,738	299	145	444	149	....	100	145
Carbondale Coal Mining Co.,	......	......	......	1	1	2	....	31,672	65	27	92	....	....	65	27
Sacandaga Coal Co.,	1	......	1	......	......	......	1,610	....	18	14	32	18	....	....	....
Miscellaneous Companies,	......	......	......	......	......	......	....	....	240	113	353	....	....	....	....
Totals and averages for district, ...	16	6	22	61	7	68	196,616	51,572	5,341	2,059	7,400	334	343	88	294

TABLE C.—Classification of Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	....	....	....	....	....	....	....	....	....	....	1	1	6.25
Falls of roof,	1	....	2	1	....	....	....	1	....	1	....	1	7	43.75
Mine cars,	....	....	1	....	....	1	....	....	....	....	....	1	3	18.75
Blasts, premature and otherwise,	....	....	....	....	....	....	....	....	1	2	....	....	3	18.75
Struck by pick handle,	....	....	....	....	....	....	1	....	....	....	....	....	1	6.25
Struck by wooden rail,	....	....	1	....	....	....	....	....	....	....	....	....	1	6.25
Totals,	1	....	4	1	....	1	1	1	1	3	....	3	16	100.00
Causes of Accidents Outside														
Cars,	....	....	....	....	....	....	1	2	1	....	....	....	4	66.67
Machinery,	....	....	....	1	....	....	....	....	....	....	....	1	2	33.33
Totals,	....	....	....	1	....	....	1	2	1	....	....	1	6	100.00
Grand totals inside and outside,	1	....	4	2	....	1	2	3	2	3	....	4	22	......

TABLE D.—Classification of Non-Fatal Accidents Inside and Outside of Mines

	Months													
	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Percentages
Causes of Accidents Inside														
Falls of coal,	....	1	....	....	2	1	....	....	....	....	....	....	4	6.56
Falls of roof,	2	3	1	2	2	3	3	2	3	1	....	1	23	37.70
Mine cars,	1	1	....	1	....	2	1	1	2	1	3	1	14	22.95
Explosions of gas,	....	....	....	....	....	....	....	....	....	2	....	....	2	3.28
Explosions of powder and dynamite,	....	1	....	....	1	....	....	....	....	....	....	....	2	3.28
Blasts, premature and otherwise,	....	....	....	2	1	1	....	....	....	1	....	....	5	8.19
By falling,	....	....	....	....	....	1	....	1	....	....	....	....	2	3.28
Struck by hammer,	....	1	....	....	1	....	....	....	....	....	....	....	2	3.28
Struck by timber,	....	....	....	1	1	....	....	....	....	....	....	....	2	3.28
Struck by piece of coal,	....	....	1	....	....	....	....	....	....	1	....	....	2	3.28
Mules,	....	....	2	1	....	....	....	....	....	....	....	....	3	4.92
Totals,	3	7	4	7	8	8	4	4	5	6	3	2	61	100.00
Causes of Accidents Outside														
Cars,	....	1	1	....	....	....	1	1	....	1	1	....	6	85.71
Struck by rope,	....	....	....	....	....	....	....	....	....	....	1	....	1	14.29
Totals,	....	1	1	....	....	....	1	1	....	1	2	....	7	100.00
Grand totals inside and outside,	3	8	5	7	8	8	5	5	5	7	5	2	68	......

TABLE E.—Occupations of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	....	....	1	....	....	....	1	....	1	1	....	....	4
Miners' laborers,	1	....	1	1	....	....	....	1	....	1	....	2	7
Drivers and runners,	....	....	1	....	....	....	....	....	....	1	....	....	2
Motormen,	....	....	....	....	....	....	....	....	....	....	....	1	1
Cable boys,	....	....	1	....	....	....	....	....	....	....	....	....	1
Footmen,	....	....	....	....	....	1	....	....	....	....	....	....	1
Totals,	1	....	4	1	....	1	1	1	1	3	....	3	16
Outside													
Foremen,	....	....	....	1	....	....	....	....	....	....	....	....	1
Slatepickers (boys),	....	....	....	....	....	....	....	....	....	....	....	1	1
Laborers,	....	....	....	....	....	....	....	1	1	....	....	....	2
Miners,	....	....	....	....	....	....	....	1	....	....	....	....	1
Loaders,	....	....	....	....	....	....	1	....	....	....	....	....	1
Totals,	....	....	....	1	....	....	1	2	1	....	....	1	6
Grand totals inside and outside,	1	....	4	2	....	1	2	3	2	3	....	4	22

TABLE F.—Occupations of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Inside													
Miners,	2	4	1	2	6	2	3	3	1	4	1	1	30
Miners' laborers,	1	2	1	3	1	2	....	....	2	2	2	....	16
Drivers and runners,	....	1	2	2	....	2	1	1	....	....	....	1	10
Doorboys and helpers,	....	....	....	....	....	....	....	....	1	....	....	....	1
Cable boys,	....	....	....	....	....	....	....	....	1	....	....	....	1
Engineers,	....	....	....	....	....	1	....	....	....	....	....	....	1
Brakemen,	....	....	....	....	....	1	....	....	....	....	....	....	1
Bratticemen,	....	....	....	....	1	....	....	....	....	....	....	....	1
Totals,	3	7	4	7	8	8	4	4	5	6	3	2	61
Outside													
Drivers,	....	....	....	....	....	....	....	....	....	....	1	....	1
Miners,	....	....	....	....	....	....	....	....	....	....	1	....	1
Switchmen,	....	....	....	....	....	....	....	1	....	....	....	....	1
Headmen,	....	....	....	....	....	....	1	....	....	....	....	....	1
Brakemen,	....	....	1	....	....	....	....	....	....	....	....	....	1
Laborers,	....	1	....	....	....	....	....	....	....	1	....	....	2
Totals,	....	1	1	....	....	....	1	1	....	1	2	....	7
Grand totals inside and outside,	3	8	5	7	8	8	5	5	5	7	5	2	68

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	....	1	1	....	1	....	....	....	....	....	....	3
English,	..	....	....	....	....	....	....	....	....	1	....	....	1
Irish,	....	....	1	....	....	....	....	....	....	....	....	....	1
Polish,	1	....	2	1	....	....	....	1	1	....	....	1	7
Italian,	....	....	....	....	....	....	....	....	....	1	....	1	2
Slavonian,	....	....	....	....	....	....	....	2	1	....	....	....	3
Austrian,	....	....	....	....	....	....	1	....	....	1	....	....	2
Russian,	....	....	....	....	....	....	1	....	....	....	....	2	3
Totals,	1	....	4	2	....	1	2	2	2	3	....	4	22

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	Months												
	January	February	March	April	May	June	July	August	September	October	November	December	Totals
American,	....	1	....	1	2	3	....	2	....	1	....	....	10
English,	....	....	1	....	....	....	....	....	1	....	....	....	2
Welsh,	....	1	....	....	....	....	....	....	....	....	....	1	2
Irish,	....	....	1	....	2	....	1	....	....	....	....	....	4
Polish,	1	3	1	1	....	2	1	1	1	1	....	....	12
Italian,	....	2	1	2	....	....	1	....	1	2	1	....	10
Slavonian,	....	....	....	....	....	2	1	....	....	2	1	....	6
Lithuanian,	....	....	1	....	....	1	....	1	....	....	....	....	3
Austrian,	2	1	....	2	2	....	1	1	1	1	2	1	14
Russian,	....	....	....	1	2	....	....	....	1	....	1	....	5
Totals,	3	8	5	7	8	8	5	5	5	7	5	2	68

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents and number of persons employed inside

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Hillside Coal and Iron Co.															
Forest City Colliery:															
Number 2, ...	Shaft, ...	Non-gas., .	2 Fans,	24	7.	7.	70	2.0	Guibal, ...	Steam,......	12	142,890	136,160	152,510	462
				24	7.	7.	65	1.0							
Clifford, ...	Shaft, ...	Non-gas., .	Fan, ...	18	5.	5.	80	1.	Guibal, ...	Steam,......	6	91,558	87,420	94,320	301
Gray, ...	Slope, ...	Non gas., .	Fan, ...	20	6.5	5.42	27	1.	Guibal, ...	Electricity,	2	34,809	33,135	35,360	100
Hudson Coal Co.															
Clinton Colliery:															
Clinton No. 3, Top Vein,	Slope,.....	Non-gas., .	Fan, ...	17	4.	4.4	95	1.6	Guibal, .	Electricity,	2	52,600	50,620	54,695	118
Clinton No. 8, River-side, Clifford, ...	Slope,.....	Non-gas., .	Fan, ...	20	5.	5.	75	1.4		Steam,......	4	77,450	77,820	78,050	212
Clinton No. 5, Clifford,	Drift, ...	Non-gas., .	Fan, ...	10	2.5	2.5	112	.6		Steam,......	1	27,500	26,675	28,500	51
Clinton No. 7, Clifford.	Drift, ...	Non-gas., .	Fan, ...	10	2.5	2.5	112	.5		Steam,......	1	27,600	26,750	28,450	72
Clinton No. 10, Grassy,	Slope,.....	Non-gas., .	Fan, ...	20	5.	5.	75	.9		Electricity,	4	83,900	81,420	86,990	159
Scranton Coal Co.															
Ontario Colliery:															
Ontario, ...	Tunnel, ...	Non-gas., .	Fan, ...	14	4.	4.	90	.8	Guibal, ...	Steam,......	2	51,000	37,000	56,000	133
Ontario, Klondike, ...	Tunnel. ...	Non-gas., .	Fan, ...	12	3.4	3.4	100	.6	Waddell, ...	Steam,......	3	60,000	52,000	65,000	180
Ontario, Blue Ridge, ..	Shaft,.....	Non-gas., .	Fan, ...	15	4.	4.	75	.5	Guibal, ...	Steam,......	2	45,000	45,000	48,700	72
Ontario, Sturges, ...	Shaft, ...	Non-gas., .	Fan, ...	20	6.	6.3	65	1.2	Guibal, ...	Steam,......	5	72,650	65,430	81,120	225
Lackawanna Coal Co., Ltd.															
Lackawanna Colliery:															
Lackawanna, ...	Shaft, ...	Gaseous, ..	Fan, ...	20	5.	5.4	70	2.	Guibal, ...	Steam,......	8	166,125	134,455	170,535	679
Lackawanna, ...	Shaft, ...	Gaseous, ..	Fan, ...	22	6.	5.8	65	1.2							

Connell Anthracite Mining Co.															
Connell Colliery:															
Connell,	Drift,	Non-gas.,	Fan,	16	4.	4.	100	.2	Guibal,	Electricity,	....	84,000	66,200	86,600	330
Mt. Jessup Coal Co., Ltd.															
Mt. Jessup Colliery:															
Peck Shaft,	Shaft,	Gaseous,	Fan,	16	6.	4.8	120	2.	Guibal,	Steam,	6	52,500	46,000	70,000	240
North Pitch,	Shaft,	Gaseous,	Fan,	14	4.2	3.6	118	1.	Guibal,	Steam,	3	54,000	45,800	65,800	181
Surface,	Tunnel,	Non-gas.,	Natural,	......	......	......	......	......	....	....	1	15,000	10,000	*12,000	50
Surface,	Slope,	Non-gas.,	Natural,	......	......	......	......	......	....	....	1	10,000	8,000	*8,000	30
Surface,	Slope,	Non-gas.,	Natural,	......	......	......	......	......	....	....	1	10,000	7,000	*7,000	10
Moosic Mountain Coal Co.															
Marshwood Colliery:															
Marshwood,	Drift,	Non-gas.,	Fan,	10	3.4	2.10	100	3.	Home-made,	Steam,	8	156,150	156,150	171,350	363
Marshwood,	Slope,	Non-gas.,	Natural,	......	......	......	......	......							
Northwest Coal Co.															
Northwest Colliery:															
Northwest,	Drift,	Non-gas.,	Fan,	20	6.6	5.3	70	1.2	Guibal,	Electricity,	4	110,575	100,950	116,425	268
Northwest,	Slope,	Non-gas.,	Fan,	15	6.	4.6	90	1.2	Guibal,	Steam,					
Northern Anthracite Coal Co.															
Murray Colliery:															
Murray,	Shaft,	Non-gas.,	Fan,	16	5.	6.	85	1.3	Guibal,	Steam,	3	71,280	71,280	71,280	193
Dolph Coal Co., Ltd.															
Dolph Colliery:															
Dolph,	Drift, Slope,	Non-gas.,	2 Fans,	20 20	4. 4.	6. 6.	70 70	1.5 1.5	Guibal,	Steam,	2	29,755	58,390	58,410	60
Hannah Bell,	Slope,	Non-gas.,	Fan,	20	4.	6.	60	1.5	Guibal,	Steam,	2	29,500	59,600	63,000	45
O'Boyle-Foy Anthracite Coal Co.															
O'Boyle-Foy Colliery:															
O'Boyle-Foy,	Shaft,	Non-gas.,	Fan,	18	6.	6.	60	1.2	Guibal,	Steam,	3	41,500	46,300	50,800	156
Carbondale Coal Mining Co.															
Bolands Colliery:															
Bolands,	Slope,	Non-gas.,	Fan,	6	3.	1.5	200	.3	Guibal,	Steam,	2	20,000	20,600	24,000	65
Noble-Williams Coal Co.															
Primrose Colliery:															
Primrose (Top and Bottom Clark),	Slope,	Non-gas.,	Fan,	24	7	7	65	1	Guibal,	Steam,	2	30,000	30,200	37,000	19
Primrose (Richmond),	Drift,	Non-gas.,	Natural,	......	......	......	......	......	....	....	1	6,000	4,000	8,000	10
Clinton Falls Coal Co.															
Clinton Falls Colliery:															
Clinton Falls,	Drift,	Non-gas.,	Fan,	10	2.5	2.5	112	.5	Guibal,	Steam,	1	20,000	20,000	20,000	17

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*Quantity variable, surface openings, robbing pillars. Considerable air is lost through cave holes.

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet and inches	Width of blades in feet and inches	Depth of blades in feet and inches	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total number of cubic feet of air per minute circulating in all the splits	Number of cubic feet of air per minute passing out at outlet	Number of persons employed inside
Wachna-Taylor Anthracite Coal Co. Wachna-Taylor Colliery: Wachna-Taylor, ...	Slope,.....	Non-gas., .	*	......	......	......	......	1.2	Guibal, ...	Steam,......	1	18,000	18,000	20,500	25
Sacandaga Coal Co. Mohawk Colliery: Mohawk, ...	Drift, ...	Non-gas., .	Natural, ..	......	......	......	......	......	....	....	1	7,500	6,500	7,500	18

*Ventilated by O'Boyle-Foy Anthracite Coal Company, on Southwest Split.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Hillside Coal and Iron Co.						
Forest City,	Susquehanna,	J. P. Jennings,	Scranton,	H. E. Yewens,	Forest City,	Erie
Hudson Coal Co.						
Clinton,	Lackawanna, Wayne, Susquehanna,	C. C. Rose,	Scranton,	E. R. Pettebone,	Dorranceton,	D. and H.
Clinton Washery,						
Scranton Coal Co.						
Ontario,	Lackawanna,	W. L. Allen,	Peckville,	J. K. Berkheiser, Inside Supt.	Olyphant,	N. Y. O. and W.
Ontario Washery,				J. J. Aitken, Outside Supt.	Priceburg,	
Lackawanna Coal Co., Ltd.						
Lackawanna,	Lackawanna,	Frank H. Hemelright,	Scranton,	Joseph Reese,	Olyphant,	D. L. and W., and Erie
Connell Anthracite Mining Co.						
Connell,	Sullivan,	W. L. Connell,	Scranton,			Lehigh Valley
Mt. Jessup Coal Co., Ltd.						
Mt. Jessup,	Lackawanna,			John T. Cartwright,	Peckville,	D. L. and W., N. Y. O. and W., Erie, and D. and H.
Moosic Mountain Coal Co.						
Marshwood,	Lackawanna,	Charles P. Ford,	Marshwood,	M. Hoodmacher,	Marshwood,	D. L. and W.
Northwest Coal Co.						
Northwest,	Lackawanna,	Frank H. Hemelright,	Scranton,	Tudor J. Aston,	Carbondale,	N. Y. O. and W., and Erie
Northern Anthracite Coal Co.						
Murray,	Sullivan,	M. J. Murray, Sr.,	Dunmore,	P. J. Murray,	Murray,	Lehigh Valley
Dolph Coal Co., Ltd.						
Dolph,	Lackawanna,	W. G. Robertson,	Scranton,	W. G. Robertson,	Scranton,	Erie
O'Boyle-Foy Anthracite Coal Co.						
O'Boyle-Foy,	Sullivan,	M. W. O'Boyle,	Pittston,	M. J. Clemons,	Murray,	Lehigh Valley
Carbondale Coal Mining Co.						
Bolands,	Lackawanna,	John J. Boland,	Carbondale,	John Flannelly,	Carbondale,	D. and H.

TABLE 1.—Continued

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Noble-Williams Coal Co. Primrose, ...	Lackawanna, ...	C. S. Snyder, ...	Carbondale, ...	....	....	N. Y. O. and W.
Clinton Falls Coal Co. Clinton Falls, ...	Wayne, ...	John J. Riegel, ...	Scranton, ...	Augustus Fitzsimmons	Forest City, ...	N. Y. O. and W.
Wachna-Taylor Anthracite Coal Co. Wachna-Taylor, ...	Sullivan, ...	E. J. Taylor, ...	Mildred, ...	....	....	Lehigh Valley
Sacandaga Coal Co. Mohawk, ...	Lackawanna, ...	E. H. Leaning, ...	Scranton, ...	John A. Hines, ...	Scranton, ...	D. and H.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder, dynamite and permissible explosives used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Hillside Coal and Iron Co.													
Forest City,	Susquehanna, ...	474,600	41,432	7,379	523,411	280	1,420	2	12	534,825	100	119,478	86
Hudson Coal Co.													
Clinton,	Lackawanna, Wayne, ...	371,751	27,487	3,645	402,883	289	791	1	17	321,275	83,670	....	91
Clinton Washery,	Susquehanna, ...	7,628	....	....	7,628	......	......	......	......	....	....	....	......
Totals,	....	379,379	27,487	3,645	410,511	......	791	1	17	321,275	83,670	....	91
Scranton Coal Co.													
Ontario,	Lackawanna,	286,977	58,137	2,472	347,586	236	951	2	4	194,375	204,000	....	106
Ontario Washery,		10,564	7,500	....	18,064		49	......	......	....	....	....	......
Totals,	....	297,541	65,637	2,472	365,650	......	1,000	2	4	194,375	204,000	....	106
Lackawanna Coal Co., Ltd.													
Lackawanna,	Lackawanna, ...	305,928	28,371	9,310	343,609	276	853	3	10	360,325	83,750	....	53
Connell Anthracite Mining Co.													
Connell,	Sullivan, ...	292,942	36,500	2,367	331,809	280	470	......	1	101,300	16,063	117,363	7
Mt. Jessup Coal Co., Ltd.													
Mt. Jessup,	Lackawanna, ...	266,527	34,200	6,457	307,184	285	807	2	7	193,725	63,341	24,123	60

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Explosives			Number of horses and mules
										Number of pounds of powder used	Number of pounds of dynamite used	Number of pounds of permissible explosives used	
Moosic Mountain Coal Co. Marshwood,*	Lackawanna, ...	221,223	28,000	1,983	251,206	257	487	4	5	152,450	98,450	....	53
Northwest Coal Co. Northwest,	Lackawanna, ...	177,972	8,942	873	187,787	268	357	3	6	150,650	10,943	....	50
Northern Anthracite Coal Co. Murray,	Sullivan, ...	161,552	5,000	3,246	169,798	181	294	2	. ....	126,000	2,000	....	32
Dolph Coal Co., Ltd. Dolph,	Lackawanna, ...	87,337	25,000	877	113,214	164	444	2	4	159,250	33,025	....	34
O'Boyle-Foy Anthracite Coal Co. O'Boyle-Foy,	Sullivan, ...	77,174	5,500	1,779	84,453	177	226	......	......	130,000	19,625	....	22
Carbondale Coal Mining Co. Bolands,	Lackawanna, ...	14,502	3,500	13,670	31,672	254	92	......	2	60,000	3,600	....	8
Noble-Williams Coal Co. Primrose,†	Lackawanna, ...	8,600	1,460	167	10,227	189	53	......	......	750	....	....	3
Clinton Falls Coal Co. Clinton Falls,	Wayne, ...	5,709	673	486	6,868	126	40	......	......	2,400	....	2,400	4

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*Coal is prepared in Mt. Jessup breaker.

†Formerly Outlook Colliery operated by the Outlook Coal Company. Noble-Williams Coal Company took charge about April 1.

Wachna-Taylor Anthracite Coal Co. Wachna-Taylor.	Sullivan,	5,737	1,000	116	6,853	159	34	......	......	10,000	400	....	4
Sacandaga Coal Co. Mohawk,‡	Lackawanna,	1,399	100	111	1,610	41	32	1	......	3,825	275	....	3
Grand totals,		2,778,122	312,802	54,938	3,145,862	......	7,400	22	68	2,501,150	619,242	263,364	616

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‡Formerly Bartons Colliery operated by the Lincoln Hill Coal Company. Sacandaga Coal Company took charge about May 1.

TABLE 2.—Part 2

Names of Operators	County	Number of Boilers					Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Hillside Coal and Iron Co., ...	Susquehanna, ..	......	......	29	3,450	3,450	5	......	15	45	3,475	6	3,000	1,700	5	......
Hudson Coal Co., ...	Susquehanna, Lackawanna, Wayne, ...	10	320	5	1,325	1,645	1	......	......	44	1,890	7	4,200	1,400	......	......
Scranton Coal Co., ...	Lackawanna, ...	25	665	12	1,100	1,765	5	......	2	44	2,636	7	2,980	2,000	2	1
Lackawanna Coal Co., Ltd., ...	Lackawanna, ...	......	......	10	2,310	2,310	2	......	8	21	2,530	35	8,500	4,800	3	......
Connell Anthracite Mining Co.,	Sullivan, ...	......	......	6	1,600	1,600	......	......	12	10	1,530	2	800	700	4	......
Mt. Jessup Coal Co., Ltd., ...	Lackawanna, ...	......	......	12	2,940	2,940	3	......	......	17	850	4	3,300	1,600	......	......
Moosic Mountain Coal Co., ...	Lackawanna, ...	......	......	10	825	825	2	......	......	9	249	5	1,550	1,162	1	......
Northwest Coal Co., ...	Lackawanna, ...	......	......	4	900	900	3	......	......	18	1,350	....	....	....	1	2
Northern Anthracite Coal Co.,..	Sullivan, ...	......	......	5	480	480	......	......	......	6	370	2	2,100	1,950	......	......
Dolph Coal Co., Ltd., ...	Lackawanna, ...	......	......	13	2,320	2,320	3	......	4	35	1,755	5	1,980	1,000	3	3
O'Boyle-Foy Anthracite Coal Co., ...	Sullivan, ...	......	......	2	550	550	......	......	......	14	525	3	200	160	......	......
Carbondale Coal Mining Co., ..	Lackawanna, ...	......	......	4	275	275	......	......	......	3	150	1	260	75	......	......
Noble-Williams Coal Co., ...	Lackawanna, ...	1	40	2	140	180	1	......	......	4	140	....	....	....	......	......
Clinton Falls Coal Co., ...	Wayne, ...	1	50	1	75	125	......	......	......	2	150	....	....	....	......	......
Wachna-Taylor Anthracite Coal Co., ...	Sullivan, ...	......	......	1	80	80	......	......	......	2	65	1	200	200	......	......
Sacandaga Coal Co., ...	Lackawanna, ...	......	......	1	125	125	......	......	......	1	10	1	100	75	......	1
Totals, ...	....	37	1,075	117	18,495	19,570	25	......	41	275	17,675	79	29,170	16,822	19	7

TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators	County	Inside											Outside									Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Doorboys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slatepickers (boys)	Slatepickers (men)	Bookkeepers and clerks	All other employes	Total outside	
Hillside Coal and Iron Co.,	Susquehanna, .	3	9	....	394	405	60	28	8	162	27	1,096	1	1	25	38	41	25	3	190	324	1,420
Hudson Coal Co., ...	Lackawanna, Wayne. .... Susquehanna,	1	3	....	195	223	95	25	9	48	13	617	....	1	6	25	10	31	2	99	174	791
Scranton Coal Co., ...	Lackawanna, .	2	5	....	238	186	105	8	9	....	65	618	....	2	20	44	51	95	3	167	382	1,000
Lackawanna Coal Co., Ltd.,	Lackawanna, .	2	3	5	219	225	43	16	10	31	125	679	1	1	24	19	....	36	3	90	174	853
Connell Anthracite Mining Co., ...	Sullivan, ...	1	1	....	145	78	....	4	9	30	62	330	1	1	9	12	12	28	5	72	140	470
Mt. Jessup Coal Co., Ltd.,	Lackawanna, .	1	1	7	169	211	56	9	9	48	....	511	1	3	17	30	72	20	3	150	296	807
Moosic Mountain Coal Co.,	Lackawanna, .	2	1	....	153	136	57	10	9	20	19	407	1	1	13	10	....	....	3	52	80	487
Northwest Coal Co., ...	Lackawanna, .	2	....	....	101	100	23	7	3	9	23	268	1	1	9	9	2	19	2	46	89	357
Northern Anthracite Coal Co., ...	Sullivan, ...	1	1	....	68	68	33	7	1	12	2	193	1	2	4	6	19	26	3	40	101	294
Dolph Coal Co., Ltd., ...	Lackawanna, .	1	2	....	156	85	29	....	2	18	6	299	1	1	9	24	21	14	5	70	145	444
O'Boyle-Foy Anthracite Coal Co., ...	Sullivan, ...	1	1	....	80	50	9	3	2	6	6	158	1	1	2	5	8	30	1	20	68	226
Carbondale Coal Mining Co.,	Lackawanna, .	1	....	....	24	26	9	1	....	3	1	65	1	1	2	5	6	....	2	10	27	92
Noble-Williams Coal Co., ..	Lackawanna, .	1	....	....	12	12	5	....	....	4	....	34	1	1	2	6	4	....	1	4	19	53
Clinton Falls Coal Co., ...	Wayne, ...	1	....	....	10	......	6	....	....	6	....	23	1	....	....	1	7	1	1	6	17	40
Wachna-Taylor Anthracite Coal Co., ...	Sullivan, ...	1	....	....	15	6	2	....	....	1	....	25	1	....	1	3	3	....	1	......	9	34
Sacandaga Coal Co., ...	Lackawanna, .	1	....	....	6	6	3	....	....	2	....	18	1	1	2	2	2	1	1	4	14	32
Totals, ...	....	22	27	12	1,985	1,822	535	118	71	400	349	5,341	14	18	145	239	258	326	39	1,020	2,059	7,400

TABLE 3.—Part 2

Names of Operators	County	Average Number of Days Worked in Breaker												
		January	February	March	April	May	June	July	August	September	October	November	December	Total
Hillside Coal and Iron Co.,	Susquehanna,	23	23	22	24	26	25	13	26	24	25	24	25	280
Hudson Coal Co.,	Lackawanna, Wayne,	25	23	22	25	25	24	25	26	22	24	23	25	289
Scranton Coal Co.,	Lackawanna,	21	20	20	20	21	20	20	20	19	18	18	19	236
Lackawanna Coal Co., Ltd.,	Lackawanna,	26	24	25	25	24	24	26	15	12	26	23	26	276
Connell Anthracite Mining Co.,	Sullivan,	24	24	24	26	23	24	22	23	23	23	23	21	280
Mt. Jessup Coal Co., Ltd.,	Lackawanna,	25	24	23	24	24	23	24	24	24	25	23	22	285
Northwest Coal Co.,	Lackawanna,	22	22	24	24	23	21	23	21	22	23	21	22	268
Northern Anthracite Coal Co.,	Sullivan,	18	17	11	......	10	19	13	17	19	20	17	20	181
Dolph Coal Co., Ltd.,	Lackawanna,	16	16	14	15	15	12	13	10	12	13	13	15	164
O'Boyle-Foy Anthracite Coal Co.,	Sullivan,	19	16	14	19	18	19	6	1	19	14	19	13	177
Carbondale Coal Mining Co.,	Lackawanna,	23	20	21	20	22	18	20	20	21	21	24	24	254
Noble-Williams Coal Co.,	Lackawanna,	......	8	11	15	14	17	16	18	24	21	24	21	189
Clinton Falls Coal Co.,	Wayne,	26	22	18	......	......	......	.....	......	12	23	19	6	126
Wachna-Taylor Anthracite Coal Co.,	Sullivan,	24	23	6	......	......	......	.....	19	20	25	22	20	159
Sacandaga Coal Co.,	Lackawanna,	......	......	......	......	......	......	.....	......	......	......	21	20	41

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan. 18	Frank Orbrousky, ...	Polish, ...	Laborer, ...	45	M.	1	5	Lackawanna, ...	Lackawanna, ...	Fatally injured by fall of roof at face of chamber.
March 1	Anthony Grimes, ...	Irish, ...	Laborer, ...	50	M.	1	....	Marshwood, ...	Lackawanna, ...	Fatally injured by fall of roof at pillar work.
4	Stanley Frances, ...	Polish, ...	Cable boy, ..	18	S.	....	....	Lackawanna, ...	Lackawanna, ...	Fatally injured by cars on gangway.
14	Oliver Richards, ...	American, ..	Driver, ...	18	S.	....	....	Clinton, ...	Lackawanna, ...	Killed by being struck by wooden rail on plane.
29	Bartol Speholski, ...	Polish, ...	Miner, ...	50	M.	1	3	Forest City, ...	Susquehanna, ..	Fatally injured by fall of roof at face of pillar.
April 18	Louis Malinoski, ...	Polish, ...	Laborer, ...	19	S.	....	....	Marshwood, ...	Lackawanna, ...	Fatally injured by fall of roof at face of chamber.
30	Alfred McColough, ..	American, ..	Foreman, ...	51	M.	1	....	Mt. Jessup, ...	Lackawanna, ...	Instantly killed by machinery in washery. Outside.
June 13	Emery Miekas, ...	American, ..	Footman, ...	39	M.	1	3	Murray, ...	Sullivan, ...	Fatally injured by cars on gangway.
July 14	Wasko Wingreen, ...	Russian, ...	Loader, ...	38	M.	1	4	Northwest, ...	Lackawanna, ...	Fatally injured by cars under breaker. Outside.
29	John Bernick, ...	Austrian, ..	Miner, ...	45	M.	1	....	Forest City, ...	Susquehanna, ..	Fatally injured by pick handle striking him in abdomen at face of chamber.
Aug. 2	Michael Sorua, ...	Slavonian, ..	Miner, ...	33	M.	1	2	Marshwood, ...	Lackawanna, ...	Fatally injured by cars near breaker. Outside.
11	Joseph Baloge, ...	Slavonian, ..	Laborer, ...	20	S.	....	....	Marshwood, ...	Lackawanna, ...	Fatally injured by falling under cars near breaker. Outside.
20	Joseph Reskofskie, ...	Polish, ...	Laborer, ...	21	S.	....	....	Northwest, ...	Lackawanna, ...	Killed by fall of roof at face of chamber.
Sept. 13	Frank Sezmenskie, ..	Slavonian, ..	Miner, ...	35	M.	1	5	Mt. Jessup, ...	Lackawanna, ...	Killed by premature blast in heading.
27	William Marcinko, ...	Polish, ...	Laborer, ...	18	S.	....	....	Northwest, ...	Lackawanna, ...	Killed by cars. Outside.
Oct. 19	George Hudock, ...	Austrian, ..	Driver, ...	32	M.	1	3	Dolph, ...	Lackawanna, ...	Killed by fall of roof on slope.
20	Richard Mitchell, ...	English, ...	Miner, ...	46	M.	1	6	Ontario, ...	Lackawanna, ...	Killed by explosion of blast at face of heading.
	Germino Santarello, ..	Italian, ...	Laborer, ...	22	S.	....	....			
Dec. 3	Moxie Masko, ...	Russian, ...	Laborer, ...	35	S.	....	....	Lackawanna, ...	Lackawanna, ...	Fatally injured by fall of coal near face of chamber.
	James Chel, ...	Italian, ...	Motorman, ..	21	S.	....	....	Dolph, ...	Lackawanna, ...	Fatally injured by cars on gangway.
9	Michael Staviski, ...	Russian, ...	Slatepicker,	16	S.	....	....	Murray, ...	Sullivan, ...	Instantly killed by falling into scraper line. Outside.
11	Paul Graba, ...	Polish, ...	Laborer, ...	23	S.	....	....	Mohawk, ...	Lackawanna, ...	Fatally injured by fall of roof at face of chamber.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Jan.	15	John Gerchman, ...	Austrian, ..	Miner, ...	31	M.	Forest City, ...	Susquehanna, ..	Leg fractured by cars on gangway.
	16	Barney Prodgie, ...	Polish, ...	Laborer, ...	19	S.	Northwest, ...	Lackawanna, ...	Leg fractured by fall of roof at face of chamber.
	24	Peter Widzen, ...	Austrian, ..	Miner, ...	44	M.	Northwest, ...	Lackawanna, ...	Ribs fractured by fall of roof at face of chamber
Feb.	3	Felix Gordan, ...	Polish, ...	Laborer, ...	35	S.	Northwest, ...	Lackawanna, ...	Arm and leg fractured by fall of roof at face of chamber.
	10	Joseph Mernillo, ...	Italian, ...	Laborer, ...	30	S.	Lackawanna, ...	Lackawanna, ...	Hand burned by explosion of dynamite in cross-cut.
		Daniel Pelkosky, ...	Polish, ...	Miner, ...	31	M.	Lackawanna, ...	Lackawanna, ...	Shoulder dislocated by fall of roof in chamber.
		Edward Owens, ...	Welsh, ...	Miner, ...	49	M.	Clinton, ...	Lackawanna, ...	Ribs fractured by being struck by hammer on gangway.
	11	John Casteline, ...	Italian, ...	Miner, ...	37	S.	Mt. Jessup, ...	Lackawanna, ...	Leg injured by fall of rock at face of chamber
	15	Adam Crevage, ...	Polish, ...	Miner, ...	47	M.	Connell, ...	Sullivan, ...	Leg fractured by fall of coal at face of chamber.
	24	Michael Pohavits, ...	Austrian, ..	Runner, ...	29	M.	Northwest, ...	Lackawanna, ...	Leg broken by cars on gangway.
		Cornelius Tobin, ...	American, ..	Laborer, ...	25	S.	Forest City, ...	Susquehanna, ..	Part of foot taken off by cars. Outside.
March	1	David Thomas, ...	English, ...	Driver, ...	35	S.	Marshwood, ...	Lackawanna, ...	Ribs fractured by being kicked by mule on gangway.
	5	Joseph Spohle, ...	Italian, ...	Driver, ...	17	S.	Mt. Jessup, ...	Lackawanna, ...	Severely injured by being kicked by mule on gangway.
	8	Leroy Walton, ...	Irish, ...	Brakeman, ...	18	S.	Marshwood, ...	Lackawanna, ...	Leg fractured by cars. Outside.
	9	Walter Goudoskie, ...	Lithuanian,	Laborer, ...	35	M.	Clinton, ...	Lackawanna, ...	Eye injured by being struck by piece of coal at face of chamber.
	18	Paul Polesnock, ...	Polish, ...	Miner, ...	28	M.	Clinton, ...	Lackawanna, ...	Legs broken by fall of roof at face of chamber.
April	3	Philip Rosse, ...	Italian, ...	Miner, ...	30	S.	Mt. Jessup, ...	Lackawanna, ...	Seriously injured by explosion of blast at face.
		Alex Cocadrilla, ...	Italian, ...	Laborer, ...	19	S.			
	9	Joseph Bucher, ...	Austrian, ..	Laborer, ...	39	M.	Clinton, ...	Lackawanna, ...	Back injured by fall of roof at face of chamber.
		Leonard Payne, ...	American, ..	Driver, ...	17	S.	Clinton, ...	Lackawanna, ...	Kicked by mule in abdomen while on gangway.
	10	Anthony Markal, ...	Austrian, ..	Miner, ...	25	M.	Clinton, ...	Lackawanna, ...	Finger lacerated by being struck by timber in chamber.

April	24	Daniel Jadick, ...	Russian, ...	Runner, ...	22	S.	Lackawanna, ...	Lackawanna, ...	Ankle fractured by cars on gangway.
	30	Stanley Bernosky, ...	Polish,......	Laborer, ...	22	S.	Lackawanna, ...	Lackawanna, ...	Internally injured by fall of roof at face of chamber.
May	9	James Brady, ...	Irish, ...	Miner, ...	33	M.	Forest City, ...	Susquehanna, ..	Face lacerated by explosion of blast at face of chamber.
		Jake Compie, ...	Austrian, ..	Miner, ...	23	S.	Forest City, ...	Susquehanna, ..	Slightly burned by explosion of powder at face of chamber.
		Frank Mihave, ...	Austrian, ..	Miner, ...	36	M.	Forest City, ...	Susquehanna, ..	Leg fractured by fall of coal at face of chamber.
	22	Stanley Marcavage, ..	Russian, ...	Laborer, ...	38	M.	Northwest, ...	Lackawanna, ...	Head bruised by being struck by prop in chamber.
	23	William Burns, ...	Irish, ...	Miner, ...	46	M.	Forest City, ...	Susquehanna, ..	Thigh fractured by fall of roof at face of chamber.
	25	Joseph Connelly, ...	American, ..	Bratticeman, ...	23	S.	Clinton, ...	Lackawanna, ...	Wrist bruised by sledge hammer on gangway.
	27	John Zewarcheck, ...	Russian, ...	Miner, ...	36	M.	Ontario, ...	Lackawanna, ...	Leg fractured by fall of coal at face of chamber.
	29	Charles Hortan, ...	American, ..	Miner, ...	26	M.	Ontario, ...	Lackawanna, ...	Back broken by fall of roof at face of chamber.
June	1	Ignats Lesporich, ...	Lithuanian,	Laborer, ...	33	M.	Forest City, ...	Susquehanna, ..	Arm broken by fall of rock in chamber.
	9	Sylvester O'Neal, ...	American, ..	Miner, ...	36	M.	Clinton, ...	Lackawanna, ...	Back injured by fall of coal in chamber.
	10	John Walsorich, ...	Slavonian,..	Runner, ...	21	S.	Marshwood, ...	Lackawanna, ...	Leg fractured by cars on gangway.
	13	John Obotnick, ...	Slavonian,..	Brakeman, ...	20	S.	Lackawanna, ...	Lackawanna, ...	Thigh fractured by cars on gangway.
	14	Stanley Rozas, ...	Polish,......	Miner, ...	55	M.	Bolands, ...	Lackawanna, ...	Leg fractured by fall of roof at face of chamber.
	19	Peter Klinebauer, ...	American, ..	Engineer, ...	28	M.	Clinton, ...	Lackawanna, ...	Bruised by falling down steps from inside engine house.
	23	Andrew Calosh, ...	American, ..	Driver, ...	17	S.	Clinton, ...	Lackawanna, ...	Leg fractured by explosion of blast in heading.
	24	Joseph Shiminas, ...	Polish,......	Laborer, ...	32	M.	Forest City, ...	Susquehanna, ..	Wrist fractured by fall of roof at pillar work.
July	7	Anthony Shombuskie,..	Polish,......	Runner, ...	28	S.	Ontario, ...	Lackawanna, ...	Leg fractured by cars on gangway.
	8	Charles Kutzpeck, ...	Slavonian,..	Miner, ...	50	M.	Clinton, ...	Lackawanna, ...	Slightly injured by fall of roof at face of chamber.
	17	Vincent Peron, ...	Italian, ...	Miner, ...	25	S.	Marshwood, ...	Lackawanna, ...	Leg fractured by fall of roof in chamber.
	18	Eynoe Speck, ...	Austrian, ..	Miner, ...	34	M.	Clinton, ...	Lackawanna, ...	Shoulder blade fractured by fall of roof at face of chamber.
	25	John Kane, ...	Irish, ...	Headman, ...	26	S.	Dolph, ...	Lackawanna, ...	Leg fractured by cars. Outside.
Aug.	5	Jacob Omelid, ...	Polish,......	Miner, ...	28	M.	Lackawanna, ...	Lackawanna, ...	Slightly injured by fall of roof at face of chamber.
	12	Bennie Mattes, ...	Lithuanian,	Miner, ...	28	S.	Forest City, ...	Susquehanna, ..	Leg fractured by falling off ladder in chamber.
		Harry Romick, ...	American, ..	Switchman, ...	18	S.	Northwest, ...	Lackawanna, ...	Leg fractured by cars. Outside.
	16	Charles Wood, ...	American, ..	Runner, ...	18	S.	Clinton, ...	Lackawanna, ...	Internally injured by cars at foot of slope.
	30	Anthony Gertsman, ..	Austrian, ..	Miner, ...	38	M.	Forest City, ...	Susquehanna, ..	Leg fractured by fall of roof at face of chamber.
Sept.	2	Anthony Deblak, ...	Austrian, ..	Laborer, ...	28	M.	Clinton, ...	Lackawanna, ...	Leg fractured by fall of roof at face of chamber.
	18	Lew Valentene, ...	Italian, ...	Laborer, ...	18	S.	Marshwood, ...	Lackawanna, ...	Leg and arm fractured by fall of roof at face of chamber.
	22	Fred Cofski, ...	Polish,......	Doorboy, ...	18	S.	Lackawanna, ...	Lackawanna, ...	Finger crushed by cars on gangway.
		George Francis, ...	Russian, ...	Cable boy, ...	18	S.	Lackawanna, ...	Lackawanna, ...	Finger bruised by cars on gangway.
	28	John F. Hird, ...	English, ...	Miner, ...	44	M.	Clinton, ...	Lackawanna, ...	Back severely bruised by fall of roof at face of chamber.

TABLE 5.—Continued

Date of accident		Name of Person	Nationality	Occupation	Age	Married or single	Name of Colliery	County	Nature and Cause of Accident in Brief
Oct.	6	Frank Baldiny, ...	Italian, ...	Miner, ...	25	S.	Lackawanna, ...	Lackawanna, ...	Hands and face burned by explosion of gas at face of chamber.
		Dominick Casiliny, ..	Italian, ...	Laborer, ...	24	S.	Lackawanna, ...	Lackawanna, ...	Hands and face burned by explosion of gas at face of chamber.
	13	Steve Fitzpatrick, ...	American, ..	Miner, ...	47	M.	Clinton, ...	Lackawanna, ...	Eye injured by being struck by piece of flying coal in chamber.
	19	Stanley Laskie, ...	Austrian, ..	Laborer, ...	26	S.	Dolph, ...	Lackawanna, ...	Leg broken by fall of roof on slope.
	23	Albert Bossick, ...	Slavonian, ..	Miner, ...	38	M.	Dolph, ...	Lackawanna, ...	Leg broken by explosion of blast at face of chamber.
	24	Mitchel Swinton, ...	Polish, ...	Miner, ...	20	S.	Dolph, ...	Lackawanna, ...	Leg broken by cars on gangway.
	30	Steven Collon, ...	Slavonian, ..	Laborer, ...	45	M.	Forest City, ...	Susquehanna, ..	Seriously injured by being squeezed between wall and cars. Outside.
Nov.	8	Nicholas Fellnana, ...	Italian, ...	Miner, ...	24	S.	Bolands, ...	Lackawanna, ...	Leg fractured by being struck by rope on plane. Outside.
	11	James Gydos, ...	Slavonian, ..	Driver, ...	19	S.	Mt. Jessup, ...	Lackawanna, ...	Seriously injured by cars. Outside.
	19	Daniel Waterkolke, ..	Austrian, ..	Laborer, ...	36	M.	Mt. Jessup, ...	Lackawanna, ...	Back broken by cars on gangway.
	21	Mathew Gurbas, ...	Austrian, ..	Laborer, ...	31	M.	Clinton, ...	Lackawanna, ...	Shoulder blade fractured by cars on gangway.
		Proki Felish, ...	Russian, ...	Miner, ...	19	S.	Ontario, ...	Lackawanna, ...	Finger cut off by cars on gangway.
• Dec.	5	Anton Bradach, ...	Austrian, ..	Miner, ...	32	M.	Forest City, ...	Susquehanna, ..	Leg fractured by fall of roof at face of chamber.
	24	Evan Roberts, ...	Welsh, ...	Runner, ...	23	S.	Mt. Jessup, ...	Lackawanna, ...	Hand bruised by cars on gangway.

CONDITION OF COLLIERIES

HILLSIDE COAL AND IRON COMPANY

Forest City Colliery.—Ventilation, drainage and condition as to safety good.

HUDSON COAL COMPANY

Clinton Colliery.—Ventilation, drainage and condition as to safety good.

SCRANTON COAL COMPANY

Ontario Colliery.—Ventilation fair; drainage and condition as to safety good.

LACKAWANNA COAL COMPANY, LIMITED

Lackawanna Colliery.—Ventilation, drainage and condition as to safety good.

CONNELL ANTHRACITE MINING COMPANY

Connell Colliery.—Ventilation, drainage and condition as to safety good.

MT. JESSUP COAL COMPANY, LIMITED

Mt. Jessup Colliery.—Ventilation, drainage and condition as to safety good.

MOOSIC MOUNTAIN COAL COMPANY

Marshwood Colliery. — Ventilation and safety conditions good; drainage fair.

NORTHWEST COAL COMPANY

Northwest Colliery.—Ventilation fair, drainage and condition as to safety good.

NORTHERN ANTHRACITE COAL COMPANY

Murray Colliery.—Ventilation, drainage and condition as to safety good.

DOLPH COAL COMPANY, LIMITED

Dolph Colliery.—Ventilation, drainage and condition as to safety good.

O'BOYLE-FOY ANTHRACITE COAL COMPANY

O'Boyle-Foy Colliery.—Ventilation fair; drainage bad; condition as to safety good.

CARBONDALE COAL MINING COMPANY

Bolands Colliery.—Ventilation, drainage and condition as to safety fair.

NOBLE-WILLIAMS COAL COMPANY

Primrose Colliery.—Ventilation and drainage good; condition as to safety fair.

CLINTON FALLS COAL COMPANY

Clinton Falls Colliery.—Ventilation and drainage good; condition as to safety good.

WACHNA-TAYLOR ANTHRACITE COAL COMPANY

Wachna-Taylor Colliery.—Ventilation and drainage fair; condition as to safety good.

SACANDAGA COAL COMPANY

Mohawk Colliery.—Ventilation and drainage poor, condition as to safety fair.

IMPROVEMENTS

HILLSIDE COAL AND IRON COMPANY

Forest City Colliery.—Completed the grading of outside tracks to new Gray slope opening.

Rebuilt tower at No. 2 shaft.

Completed boiler plant at No. 2 shaft.

Installed a 500 K. W. mixed pressure Curtis turbine, with its auxiliaries, in the power plant at No. 2 shaft, to generate electric power for the new Gray slope opening.

Erected pole lines and wires from No. 2 shaft to Gray slope.

Installed at Gray slope an electrically driven exhaust fan, 20 by 7 feet, and built a sub-station and electric hoist. Also installed several electric locomotives.

No. 2 shaft was sunk 220 feet from the Clark vein to the Third Dunmore vein.

A sub-station was erected in the Ring vein engine house and an electric locomotive installed.

The development of the Gray slope is being pushed. The plane and slope were driven about 1,300 feet and the headings are being driven rapidly.

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